

CONNECTIVITY SERVICES AGREEMENT

This Connectivity Services Agreement ("Agreement") is made and entered into as of **March 1, 2005** (the "Effective Date") by and between **Eze Castle Transaction Services, Inc.**, a Delaware corporation ("Eze Castle"), and **Lehman Brothers, Inc.** ("Customer").

WHEREAS, Eze Castle is a registered broker-dealer;

WHEREAS, Eze Castle Software, Inc., a Delaware Corporation ("Eze Castle Software") owns and licenses Eze-Connect, a software application and service offering that permits sell-side trading desks to connect to buy-side destinations for electronic trading;

WHEREAS, Customer is a broker-dealer that operates as a sell-side destination for clients, including certain clients who utilize Eze-Connect and have elected to participate in a billing model pursuant to which such clients' sell-side broker-dealers assume responsibility for payment for maintenance and support of their Connections (as defined below) with such clients (each, a "Customer Client");

WHEREAS, Customer Clients have entered into Subscription Agreements with Eze Castle Software which set forth the terms by which such Customer Clients license Eze-Connect from Eze Castle Software and acknowledge that Customer Clients have no payment obligations with respect to maintenance of and support for each of their Connections with Customer;

WHEREAS, Customer has the necessary means, via network systems or internet access, to transmit and receive trading-related messages to and from Customer Clients;

WHEREAS, Customer desires to obtain from Eze Castle certain services related to Eze-Connect; and

NOW, THEREFORE, for and in consideration of the mutual promises and covenants set forth herein, Eze Castle and Customer hereby agree as follows:

1. Term. This Agreement will be effective as of the Effective Date and will continue for an eighteen (18) month period (the "Initial Term") unless earlier terminated as provided herein. Thereafter, unless otherwise terminated as provided herein, this Agreement will renew automatically for successive one (1) year periods (each, a "Renewal Term" and collectively with the Initial Term, the "Term"), commencing on the day immediately following the Initial Term, unless either party gives the other party notice of its intent not to renew this Agreement at least ninety (90) days prior to the end of the Initial Term or any Renewal Term.
2. Services. During the Term, Eze Castle will supply Customer with support for the transmittal and receipt of trading-related messages via Eze-Connect through electronic connections whether physical, logical, virtual, or sponsored, and including, but not limited to, electronic connections established for orders, indications of interest, notice of execution, drop copies, and electronic connections staged via a third-party intermediary, (each, a "Connection") between Customer and Customer Clients. Such support will include the following services ("Services"):
 - a. support and maintenance of a web-based tool ("Destination Station") used to facilitate the

process of requesting and approving new Connections;

- b. support and maintenance of the Plug In for Customer's algorithmic trading tools ("LMX"), as defined in Custom Work Order executed by the parties hereto on even date herewith (hereinafter, the "Plug-In");
- c. commercially reasonable customizations to the Plug-In, Eze-Connect and other Eze Castle and/or Eze Castle Software products and services offered to Customer Clients in order to meet custom communications requirements of Customer or Customer Clients ("Custom Work Projects"). Custom Work Projects requiring material additions, deletions, or alterations (collectively "Changes") to the Plug-In may be subject to additional fees to be agreed upon in advance between Customer and Eze Castle and/or Eze Castle Software; provided, that any set of individual Changes occurring within a ninety (90) day period, each of which may not independently constitute a material change, may collectively be considered a material change and be subject to a separate fee.
- d. coordination of the various parties, including but not limited to Customer, Customer Clients, Eze Castle Software and third party network vendors, involved in the process of testing new Connections and moving, testing or modifying existing Connections. At the sole discretion of Eze Castle, such services may include support for FIX protocol upgrades, functionality upgrades and system upgrades to the extent such is not a Custom Work Project;
- e. proactive monitoring of Connection status, provided however that if the network provider for Customer operates a consolidated network hub that allows visibility only from a given end point to the network hub (a "Limited Visibility Network Hub"), then Eze Castle's monitoring service will be limited to monitoring the connectivity between the Customer Client and the Limited Visibility Network Hub;
- f. troubleshooting Connection issues and coordinating third-parties as needed to assist in the troubleshooting of such issues; and
- g. such other services as may be required from time to time and agreed upon by the parties to assist in establishing and supporting Connections.

3. Disclaimer.

- a. By offering Services to Customer, neither Eze Castle nor Eze Castle Software is responsible for ensuring that orders have been received or reviewed, or for completing orders in any manner or form. Eze Castle and Eze Castle Software will have no liability or responsibility for the execution of any orders or instructions transmitted through Eze-Connect; or for any damages caused by errors, inaccuracies, omissions or other failures in, or delays or interruptions of, Eze-Connect, the Services or the execution of any order, from whatever cause. Additionally, Eze Castle and Eze Castle Software will have no liability or responsibility for any regulatory or other reporting requirements arising in connection with any order transmitted through Eze-Connect. Eze Castle's exclusive and sole responsibilities under this Agreement are to provide support for the transmittal, delivery and receipt of trading related messages through the Connection between Customer and Customer Clients. Notwithstanding the foregoing, the

foregoing limits of liability and responsibility shall not apply to the extent that actions or omissions are due to the gross negligence or willful misconduct of Eze Castle.

- b. Customer will be solely responsible for all transaction related activities, including but not limited to reviewing and completing orders and complying with all regulatory and other reporting requirements arising in connection with such orders. Customer will ensure that all transmissions or receipts of trading related messages comply with all applicable laws, rules, and regulations of relevant federal, and state authorities and applicable self-regulatory organizations. Further, Customer represents and covenants that it is and will remain during the Term (x) duly registered and in good standing as a broker-dealer with the Securities and Exchange Commission and (y) a member firm in good standing with the NASD or other national securities exchange as its business requires.

4. Payment Terms.

- a. Price. Prices for the Services (other than Custom Work Projects) are set forth in Schedule A. Eze Castle will not modify prices set forth on Schedule A during the Initial Term. Thereafter, on ninety (90) days prior written notice to Customer by Eze Castle, the prices for the Services will be subject to increase at the commencement of each Renewal Term.
- b. Payment. Eze Castle will invoice Customer for the Services on a monthly basis. Payment to Eze Castle for charges not subject to a bona fide dispute will be due thirty (30) days following the date of Customer's receipt of the invoice. All prices are in U.S. dollars unless otherwise specified in Schedule A. If Customer in good faith disputes any item on an invoice, Customer will notify Eze Castle in writing of its dispute and the basis therefore within thirty (30) days of the receipt of the invoice. Customer may withhold only the disputed amount from its payment of such invoice (the "Disputed Amounts"). The written notification of disputed charges and any documentation supporting Customer's claim will be forwarded to Eze Castle at the address set forth in this Agreement. Customer and Eze Castle will make a good faith effort to settle any disputes that may arise with respect to any Disputed Amounts within fifteen (15) days from the date the dispute is first discussed between the parties. Any dispute with respect to Disputed Amounts that remain unresolved after sixty (60) days will be subject to arbitration in accordance with Section 9(a). Any adjustments relating to Disputed Amounts will appear in the invoice issued following resolution. All payments due for over thirty (30) days will accrue interest at the rate of twelve percent (12%) per annum from the date Services are first billed. Collection action necessitated by a failure, neglect or refusal to pay Eze Castle billings as and when due and not subject to a good faith dispute will entitle Eze Castle to the expenses of collection including costs, disbursements, and reasonable attorneys fees. Customer shall not make payment of fees to Eze Castle within the period in which Eze Castle's registration as a broker/dealer is not current and valid. Once Eze Castle's registration as a broker/dealer becomes current and valid, Customer shall resume payment of the fees that had been discontinued due to Eze Castle's failure to obtain the status as fully registered broker/dealer.
- c. Taxes. All payments under this Agreement will be made in U.S. dollars and without withholding or deduction of any tax, assessment or other governmental charge (collectively, "Tax") unless required by law; and if Customer will be required to deduct or withhold any Tax, or if any Tax is required to be paid by Eze Castle solely on account of the Services performed

hereunder, Customer will pay to Eze Castle such additional amounts as will be required so that the net amount received by Eze Castle from Customer after such deduction, withholding or payment will equal the amounts otherwise due to Eze Castle under this Agreement. If any goods and services tax, value added tax, consumption tax, sales tax or other similar tax is payable by Eze Castle in respect of fees paid or payable to Eze Castle for Services rendered in connection with this Agreement, Eze Castle will add the tax to its invoices and Customer will pay to Eze Castle such tax as set forth in such invoices.

- d. Initial and Final Months. For each Connection initiated on or prior to the fifteenth (15th) of a calendar month, the entire flat rate amount or minimum amount, if applicable in either case will be billed in full for such Connection for such month of initiation. For each Connection initiated after the fifteenth (15th) of a calendar month, the entire flat rate amount or minimum amount, if applicable in either case will be waived in full for such Connection for such month of initiation. For each de-activated Connection, (a) if the effective date of de-activation arises on or after the fifteenth (15th) of a calendar month, the entire flat rate amount or minimum amount, if applicable in either case will be billed in full for such Connection for such month of initiation, and (b) if the effective date of de-activation arises prior to the fifteenth (15th) of a calendar month, the entire flat rate amount or minimum amount, if applicable in either case will be waived in full for such Connection for such month of de-activation, provided however, in either case, if the flat rate or minimum amount is not applicable, the variable price will be charged for each executed transaction in accordance with Schedule A. Either party may deactivate a connection upon thirty (30) days prior written notice to the other party.

5. Confidentiality.

- a. Identification of Confidential Information. Each party acknowledges that it or its employees may, in the course of performing its responsibilities under this Agreement, be exposed to or acquire information which is proprietary to or confidential to the other party, such other party's affiliates or third parties to whom such other party has a duty of confidentiality. Any and all non-public information of any form obtained by a party or its employees in the performance of this Agreement (the "Receiving Party"), including but not limited to this Agreement and the terms hereof, will be deemed to be the confidential and proprietary information of the other party (such other party the "Disclosing Party", and such information "Confidential Information"). Confidential Information will not include information which (i) is or becomes part of the public domain without breach of this Agreement by the Receiving Party, (ii) was acquired by the Receiving Party prior to receipt from Customer and is not otherwise subject to an obligation of confidentiality, (iii) is subsequently obtained by the Receiving Party from a third party not known by the Receiving Party to have an obligation to maintain the confidentiality of such information, (iv) is developed independently by or on behalf of the Receiving Party, without reference to Confidential Information, or (v) is generally known by persons in the technology or securities industries as demonstrated by written records.
- b. Handling of Confidential Information. All Confidential Information will be held in trust and confidence by the Receiving Party, its successors and assigns. The Receiving Party will not use Confidential Information for any purpose whatsoever other than as contemplated by this Agreement, and will use its best efforts to maintain in confidence any Confidential Information of the Disclosing Party and to prevent its disclosure to others. To these ends, the Receiving

Party agrees to guard Confidential Information of the Disclosing Party as it would protect its own confidential and proprietary information, and to take all necessary steps to insure that such Confidential Information is not made available by the Receiving Party or by any of its agents, contractors or employees to any entity or person(s) outside the operating confines of this Agreement. The Receiving Party further agrees to take all steps necessary to insure that all of its agents, contractors, and employees who have access to such Confidential Information will observe and perform the provisions of this Section 5(b). The Receiving Party agrees that any violation of any provision of this Section 5(b) will cause immediate and irreparable harm to the Disclosing Party and, in such event, an injunction restraining the Receiving Party from such violation may be entered against it, in addition to any other relief available to the Disclosing Party. For avoidance of doubt and notwithstanding the foregoing, the parties agree that Eze Castle may disclose such Confidential Information to its affiliates as reasonably necessary to provide the Services hereunder (but not, without Customer's prior written consent, to any other affiliated broker dealer), and may further disclose to Customer Clients, upon their request, Confidential Information regarding such Customer Clients' Connections. Receiving Party further agrees that upon termination of the contract, all notes, letters, documents, records and any other written, printed or recorded materials, which are then in Receiving Party's possession or control and which contains any Confidential Information, will be delivered to the Disclosing Party or destroyed and that no copies or summaries thereof will be retained or used by Receiving Party for any purpose except as required by law or regulation.

- c. Legal Obligation to Disclose. A Receiving Party will be released from its obligations in Section 5(b) above with respect to any Confidential Information the Receiving Party is required to disclose pursuant to obligations imposed by law, rule or regulation of any governmental authority, securities exchange or other self-regulatory organization of which the Receiving Party is a member or by which the Receiving Party's activities are governed or regulated, or as required by discovery order or demand in a pending investigation or litigation; *provided, however,* that prior to any such required disclosure, the Receiving Party will, to the extent practicable, provide written notice to the Disclosing Party to enable it to seek a protective order.

6. Termination.

- a. Termination by Either Party. Either party may elect to terminate this Agreement by providing the other notice of its intent not to renew in accordance with the provisions of Section 1.
- b. Termination by Customer. Upon notification of any price increase in accordance with Section 4(a), Customer may object to such increase and elect either (i) to revert to a per-connection pricing model at \$1,500 per Connection per month or (ii) to terminate this Agreement, in either case by giving sixty (60) days prior written notice at any time between receipt from Eze Castle of the price change notification and the intended effective date of such price increase. Having given such notice of its election pursuant to either clause (i) or (ii) of the preceding sentence, Customer will remain exempt from the price increase through the repricing date or termination date, as applicable.
- c. Termination by Eze Castle. Notwithstanding any other provisions of this Agreement, Eze Castle will have the right to terminate this Agreement or any Connection as follows:

- i. immediately without further notice if a bill for services provided hereunder by Eze Castle not subject to a bona fide, good faith dispute is not paid in full within sixty (60) days from receipt of such bill, and Customer has not cured such non-payment within thirty (30) days from receipt of notice from Eze Castle of non-payment;
 - ii. as of the effective date of the adoption of any legislation, regulation or regulatory or self-regulatory interpretation that materially impairs Eze Castle's ability to perform or prohibits Eze Castle from performing its obligations under the Agreement, upon prior written notice; or
 - iii. immediately upon written notice if Eze Castle becomes aware that Customer has materially violated any law, rule or regulations in sending trade related messages through Eze-Connect and further, Eze Castle may immediately terminate any Connection upon written notice if Eze Castle becomes aware that any of Customer's clients has materially violated any law, rule or regulation in sending trade related messages through Eze-Connect.
- d. Termination Due To Insolvency. If either party: (a) commences or becomes the subject of any case or proceeding under the bankruptcy, insolvency or equivalent laws of any country; (b) has appointed for it or for any substantial part of its property a court-appointed receiver, liquidator, assignee, trustee, custodian, sequestrator or other similar official; (c) makes an assignment for the benefit of its creditors; (d) defaults on any secured obligation; (e) fails generally to pay its debts as they become due; or (f) takes corporate action in furtherance of any of the foregoing (collectively herein referred to as "Events of Insolvency"), then, in each case, the party experiencing such an Event of Insolvency will immediately give notice of such event to the other party. Whether or not such notice is given, the other party will have the right, to the fullest extent permitted under applicable law, following the occurrence of any Event of Insolvency and without prejudice to any other rights it may have, at any time thereafter to terminate this Agreement, effective immediately upon giving notice to the party experiencing such an Event of Insolvency.
- e. Termination In The Event Of A Material Breach. Either party may terminate this Agreement at any time in the event of a material breach of the terms herein by the other party, if such party will fail to cure such material breach (if such breach is capable of being cured) within thirty (30) days of notice of such breach.
- f. Standing as Broker-Dealer. In the event that Eze Castle's license as a registered broker-dealer with the NASD is suspended or terminated, any variable rate pricing in effect pursuant to Schedule A will be replaced as of such suspension or termination by the Replacement Flat Rate (as defined below). The "Replacement Flat Rate" means for each Connection, the average monthly fees invoiced to Customer for the six full calendar months for the suspension or termination referenced in the foregoing sentence. In the event that such license suspension or a cessation of Eze Castle's business continues for a period of more than 180 consecutive days, Eze Castle will, upon written request of Customer, assign this Agreement to Eze-Castle Software.
- g. Effect of Termination. Upon termination of this Agreement Eze Castle will notify all Customer Clients of such termination and all Connections of the Customer will be terminated.

7. Warranties; Indemnification and Limitations on Liability.

- a. Eze Castle warrants and covenants that, during the Term, it will: (i) promptly inform Customer if it has reason to believe that data has been transmitted to LMX via the Plug-In in an incomplete or inaccurate form; and (ii) provide reasonable advance notice to Customer in the event that Eze Castle Software intends to make any changes to Eze-Connect that it knows or should know would have a material adverse impact on the Plug-In or the Plug-In's interoperability with LMX and, upon Customer's reasonable written request, cooperate with Customer in adjusting the Plug-In accordingly.
- b. Indemnification by Eze Castle. Eze Castle will indemnify and hold Customer harmless for any and all judgments, damages or expenses (including taxes, penalties or assessments, and reasonable attorneys' fees) ("Losses") incurred on account of claims by third parties that arise out of or in connection with Eze Castle's breach of Section 5(b) of this Agreement, except to the extent that such Losses are incurred as the result of the breach by Customer of any of its obligations under this Agreement or the gross negligence or willful misconduct of Customer or its affiliates.
- c. Indemnification by Customer. Customer will indemnify and hold Eze Castle and its affiliates, including without limitation Eze Castle Software, harmless for any and all Losses incurred on account of claims that arise out of or in connection with Customer's breach of Section 5(b) of this Agreement or performance or non-performance of its obligations under Section 3(b) of this Agreement, except to the extent that such Losses are incurred as the result of the breach by Eze Castle of any of its obligations under this Agreement or the gross negligence or willful misconduct of Eze Castle or its affiliates.
- d. Indemnification Procedure. A party seeking indemnification under this Section 7 (the "Indemnified Party") will give the other party (the "Indemnifying Party") timely notice of any claim or action against the Indemnified Party which may give rise to indemnification under this Agreement (a "Claim"). Such notice will set forth in reasonable detail the facts and circumstances pertaining to the Claim and the basis for the Indemnified Party's right to indemnification. Delay on the part of the Indemnified Party in notifying the Indemnifying Party of any Claim will not relieve the Indemnifying Party from any liability or obligation hereunder unless (and then solely to the extent) the Indemnifying Party is materially prejudiced by such failure to give prompt notice. In the event that any Indemnified Party will give notice to any Indemnifying Party of a Claim, the Indemnifying Party may assume the defense thereof by giving notice to the Indemnified Party within thirty (30) days of receipt from the Indemnified Party of such Claim in which case (i) the Indemnifying Party will defend the Indemnified Party against such Claim with counsel of its choice reasonably satisfactory to the Indemnified Party; (ii) the Indemnified Party may retain separate co-counsel at its sole cost and expense to represent it in the defense of such Claim; (iii) the Indemnified Party will not consent to the entry of any judgment or enter into any settlement with respect to such Claim without the written consent of the Indemnifying Party (not to be withheld unreasonably); and (iv) the Indemnifying Party will not consent to the entry of any judgment or enter into any settlement with respect to such Claim, which does not include a provision whereby the plaintiff or claimant in such matter releases the Indemnified Party from all liability with respect thereto, without the written consent of the Indemnified Party (not to be withheld unreasonably). If the

Indemnifying Party does not notify the Indemnified Party within thirty (30) days after the Indemnified Party has given notice of such Claim that such Indemnifying Party is assuming the defense thereof, then the Indemnified Party may defend against, or enter into any settlement with respect to, such matter in any manner it reasonably may deem appropriate, without prejudice to any of its rights hereunder.

- e. LIMITATION ON LIABILITY. EXCEPT FOR EACH PARTY'S INDEMNIFICATION OBLIGATIONS AND OBLIGATIONS OF CONFIDENTIALITY, IN NO EVENT WILL EITHER PARTY BE LIABLE TO THE OTHER PARTY OR TO ANY THIRD PARTY FOR ANY TORT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES, DAMAGES FOR LOST PROFITS OR REVENUES, TRADING LOSSES, INACCURATE DISTRIBUTIONS, LOSS OF BUSINESS OR DATA, EXEMPLARY OR PUNITIVE DAMAGES, OF ANY KIND. EXCEPT FOR EACH PARTY'S INDEMNIFICATION OBLIGATIONS AND OBLIGATION OF CONFIDENTIALITY HEREIN, EACH PARTY'S LIABILITY TO THE OTHER FOR DIRECT DAMAGES WILL NOT EXCEED AN AMOUNT EQUAL TO THE LESSER OF THE AMOUNT PAID BY CUSTOMER TO EZE CASTLE FOR (A) THE MONTH DURING WHICH SUCH DAMAGES WERE INCURRED OR (B) THE SIX (6) MONTHS PRECEDING THE MONTH IN WHICH SUCH DAMAGES WERE INCURRED. THIS LIMITATION OF LIABILITY WILL NOT APPLY WITH RESPECT TO A PARTY'S GROSS NEGLIGENCE OR WILLFUL MISCONDUCT.

8. Miscellaneous.

- a. Customer Affiliates. Unless specified otherwise herein, the terms of the agreement will apply to Customer Affiliates (defined below) to the same extent as to Customer itself. "Customer Affiliates" will mean corporations, partnerships, or other entities that directly or indirectly through one or more intermediaries, control, or are controlled by, or are under common control with, Customer, and includes any other entity that, from and after the date hereof, becomes an affiliate of Customer. The term "control" (including, with its correlative meanings, "controlled by" and "under common control with") means possession, directly or indirectly, of power to direct or cause the direction of management or policies (whether through ownership of securities or partnership or other ownership interest, by contract or otherwise).
- b. Dispute Resolution. If any dispute arises under this Agreement, the parties will make a good faith effort to resolve the dispute before taking any action. The parties will meet to discuss the dispute no later than thirty (30) days after either party gives written notice to the other party that such a dispute exists. Such meeting may be held telephonically if travel is impractical for either party. At such meeting, an officer of Eze Castle and an officer of Customer who has authority to resolve the dispute will be in attendance. In the event a dispute is not resolved as a result of the good faith efforts of the parties, such dispute will be subject to arbitration in accordance with the arbitration rules of the NASD. No action, suit, arbitration or other proceeding may be commenced before the parties have met pursuant to this Section unless immediate injunctive relief is being sought, in which case such meeting will take place at the earliest opportunity after such immediate injunctive relief is sought.
- c. WAIVER OF JURY TRIAL. EACH PARTY, TO THE EXTENT PERMITTED BY LAW, KNOWINGLY, VOLUNTARILY AND INTENTIONALLY WAIVES ITS RIGHT TO A

JURY TRIAL IN ANY ACTION OR LEGAL PROCEEDING RELATED TO OR ARISING OUT OF THIS AGREEMENT AND THE TRANSACTIONS IT CONTEMPLATES. THE SCOPE OF THE WAIVER IS INTENDED TO BE ALL ENCOMPASSING OF ANY AND ALL DISPUTES THAT MAY BE FILED IN ANY COURT AND THAT RELATE TO THE SUBJECT MATTER HEREIN, INCLUDING WITHOUT LIMITATION, THE SCOPE OF THIS SECTION, CONTRACT CLAIMS, TORT CLAIMS, BREACH OF DUTY CLAIMS, AND ALL OTHER COMMON LAW AND STATUTORY CLAIMS. EACH PARTY WARRANTS AND REPRESENTS THAT IT HAS RECEIVED THE ADVICE OF COMPETENT LEGAL COUNSEL

- d. Prevailing Party. If any legal action or other proceeding is brought for a breach of this Agreement or any of the warranties herein, the prevailing party will be entitled to recover its reasonable attorneys' fees and other costs incurred in bringing such action or proceeding, in addition to any other relief to which such party may be entitled.
- e. Independent Contractor. The parties are contracting with each other as independent contractors. Neither party undertakes by this Agreement, or otherwise, to perform any obligation of the other. In no way is one party to be construed as an agent, or acting as an agent of the other in any respect.
- f. Prior Obligations. Each party represents and warrants that entering into and performing under this Agreement does not conflict with any existing obligations to third parties.
- g. Waiver. No waiver of any term, condition or provision of this Agreement will be effective or binding unless made in writing and delivered to the party hereto whose non-performance has been waived. No such written waiver will be deemed to excuse the performance of any act other than that which is specifically referred to herein. The failure of either party hereto to enforce, or the delay of either party hereto in enforcing, any of its respective rights under this Agreement will not be deemed a waiver or modification of this Agreement, and the parties hereto may at any time commence appropriate legal or equitable proceedings to enforce any or all of their respective rights hereunder. Any prior failure to enforce, or delay in the enforcement of, such rights will not constitute a defense in any such legal or equitable proceeding.
- h. Severability. If any provision of this Agreement is determined to be invalid, illegal or unenforceable in any respect, the remainder of this Agreement will be enforced to the full extent permitted by law, if the essential terms and conditions of this Agreement for both parties remain valid, legal and enforceable. An arbitrator appointed pursuant to Section 8(b) or a court of competent jurisdiction is hereby empowered to modify the invalid or unenforceable provision to make it valid and enforceable.
- i. Performance Excused. The parties will be excused from delays in performing or from any failure to perform hereunder to the extent that such delay or failure results from causes such as war or natural disaster or strike which are beyond the reasonable control of the affected party, provided that, in order to be excused from delay or failure to perform, the affected party must act diligently to remedy such delay or failure. In the event such delay continues for fifteen (15) consecutive days, either party will have the right to terminate this Agreement.

- j. Assignment. No party may assign any of its rights under this Agreement, except with the express prior written consent of the other party. Such consent may not be unreasonably withheld and if this Agreement is assigned pursuant to Section 6(f) such consent will be deemed given by Customer. All assignments of rights are prohibited under this subsection, whether they are voluntary or involuntary, by merger (of any kind), consolidation, dissolution, operation of law, or any other manner. Despite the previous sentence, each party may assign its rights under this Agreement without the prior written consent of the other in connection with a sale of its business as a whole or substantially all of the assets of its business, provided, however, that neither party hereunder (or its permitted assigns) may assign any of its rights under this Agreement to a competitor of the other (as reasonably determined by the assignee). Any purported assignment of rights in violation of this Section is void.
- k. Bind and Benefit. This Agreement will bind and benefit the parties and their respective permitted successors and assigns.
- l. Survivability. The provisions of Sections 5, 6(f), 7 and 8 of this Agreement will survive the completion, expiration and/or termination of this Agreement.
- m. Notice and Delivery.
 - i. Any request, approval, acceptance or decline of a Connection will be communicated by Customer via e-mail or a web based messaging system and will be delivered to e-mail addresses of Customer and Eze Castle as designated by Customer and Eze Castle from time to time.
 - ii. All notices and deliveries required to be made under this Agreement (other than those described in the immediately preceding sentence) will be made in writing and may be delivered by hand, a reputable next day courier or by e-mail, provided, however, any notice by e-mail must clearly indicate that such e-mail constitutes notice pursuant to this Agreement. Such notice or delivery, if to Eze Castle, will be sent to:

Eze Castle Transaction Services, Inc.
12 Farnsworth St., 6th Floor
Boston, MA 02210
Attn: Mr. David Quinlan, with a copy to General Counsel at the same address

e-mail: legalnotices@ezecastlesoftware.com

and, if to Customer, will be sent to:

Lehman Brothers, Inc.
745 Seventh Avenue, 2nd Floor
New York, NY 10019
Attn: John Goeller

e-mail: jgoeller@lehman.com

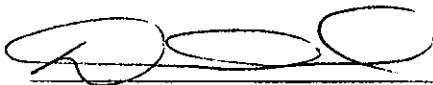
Notice will be deemed given upon receipt.

- n. Entire Agreement. This Agreement incorporates by reference all acceptances or approvals for any Connections existing as of the date hereof and otherwise contains the entire agreement between the parties as to the subject matter hereof. Except as provided in the foregoing sentence, this Agreement supersedes all prior oral and written agreements between the parties as to the subject hereof including any prior agreements covering any Connections existing as of the date hereof. This Agreement may not be modified or amended except: (i) by writing signed by a duly authorized officer of Eze Castle and a duly authorized officer of Customer; or (ii) communicated and approved by a duly authorized officer of Eze Castle and a duly authorized officer of Customer via electronic mail or other means of conveying an electronic signature, provided such electronic communication is clearly designated as an amendment to this Agreement provided, however, the parties agree and acknowledge that any request, approval, acceptance or decline of a Connection need not be communicated by an officer of Customer.
- o. Headings. Headings of sections in this Agreement are provided for convenience only and do not affect this Agreement's construction or interpretation.
- p. Governing Law. The laws of the State of New York (without giving effect to its conflicts of laws principles) govern all matters arising out of or relating to this Agreement, including, without limitation, its interpretation, construction, performance, and enforcement. For purposes of all legal actions and proceedings arising out of or relating to this Agreement, each of the parties consents to the jurisdiction of the federal and state courts of the State of New York.
- q. Counterparts. This Agreement may be executed in counterparts, each of which constitutes an original, and all of which, collectively, constitute only one agreement. The signatures of the parties need not appear on the same counterpart, and delivery of an executed signature page by facsimile is as effective as executing and delivering this Agreement in the presence of other parties to this Agreement. Neither party will be bound by the terms of this Agreement until this Agreement is executed by both parties.
- r. Marketing. Eze Castle, Eze Castle Software and Customer agree to work together to market the connectivity between the parties' respective systems to mutual customers (the "Interface"). Neither party will release information about the Interface without the other party's written consent. Neither party will announce or release information about this Agreement or incorporate the other party's logos, name, or trademarks into any published or displayed advertising, branding or other promotional material, without the prior written consent of the other party. Written consent from Customer must be from Customer's Corporate Communications Department.

(Signature page follows)

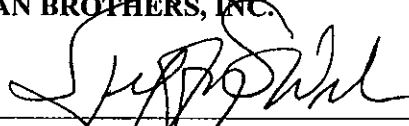
IN WITNESS WHEREOF, Eze Castle, Eze Castle Software and Customer have caused their duly authorized representatives to execute this Agreement effective as of the date first written above.

EZE CASTLE TRANSACTION SERVICES, INC.

By: 

Name: David Quinlan
Title: President

LEHMAN BROTHERS, INC.

By: 

Name: Jeffrey S. Wecker
Title: Managing Director

SCHEDULE A

Pricing

Customer Client Billing Model ¹	U.S. Markets ²	Non-U.S. Markets ²	Maximum Charges ³
Flat Rate	\$500 per Connection / month	\$500 per Connection / month	\$500 per Connection / month
Variable Rate	\$0.001 / share	5% of commissions generated on executed trades	Maximum: \$2,000 per month for all Connections between Customer Client and Customer

Notes:

1. The designation of which billing model will apply to a given Customer Client is governed by separate agreement between each Customer Client and Eze Castle Software.
2. All rates set forth above are exclusive of taxes, which will be addressed as specified in Section 4. All rates set forth above are applicable to equity trades only.
3. All ceilings set forth above are applicable to equity trades only.

AMENDMENT to CONNECTIVITY SERVICES AGREEMENT

This Amendment ("CSA Amendment") to the Connectivity Services Agreement (the "CSA") entered into as of March 1, 2005 (the "CSA Effective Date") by and between Eze Castle Transaction Services LLC (successor to Eze Castle Transaction Services, Inc.) ("Eze Castle") and Lehman Brothers, Inc. ("Customer") is entered into as of October 1, 2006 (the "CSA Amendment Effective Date"). Capitalized terms not defined in this CSA Amendment will have the meaning ascribed in the CSA.



WHEREAS, Eze Castle and Customer are party to the CSA;

WHEREAS, Eze Castle and Customer desire to add additional terms and conditions to the CSA to accommodate Customer's desire to establish Connections with certain Customer-Clients for the purpose of facilitating trading of options (other than options on futures, currency, and fixed income instruments); and

NOW, THEREFORE, for and in consideration of the mutual promises and covenants set forth herein, Eze Castle and Customer hereby agree as follows:

1. Prices for the Services are set forth in Schedule A attached hereto, which hereby supersedes and replaces any previous Schedule A to the CSA in its entirety.
2. All terms of the CSA not specifically modified by this CSA Amendment remain in full force and effect as set forth in the CSA.
3. This CSA Amendment may be executed in counterparts, each of which constitutes an original, and all of which, collectively, constitute only one agreement. The signatures of the parties need not appear on the same counterpart, and delivery of an executed signature page by facsimile is as effective as executing and delivering this CSA Amendment in the presence of other parties to this CSA Amendment. Neither party will be bound by the terms of this CSA Amendment until this CSA Amendment is executed by both parties.

IN WITNESS WHEREOF, Eze Castle and Customer have caused their duly authorized representatives to execute this CSA Amendment effective as of the CSA Amendment Effective Date written above.

EZE CASTLE TRANSACTION SERVICES LLC		LEHMAN BROTHERS, INC.	
By: 		By: 	
Name: <u>DAVID G. GIVNER</u>		Name: <u>P. J. Trevis</u>	
Title: <u>PRESIDENT</u>		Title: <u>Managing Director</u>	

SCHEDULE A

Pricing

Customer Client Billing Model	Asset Class	U.S. Markets	Non-U.S. Markets	Minimum Charge
Variable Rate	Equities	\$0.001 / share	5% of commissions generated on executed trades	Maximum: \$2,000 per month for all Connections between Customer Client and Customer
Variable Rate	Options ⁴	\$0.10 / contract execution	\$0.10 / contract execution	None

Notes:

1. Fees only apply to trades executed by Customer or its affiliate. Notwithstanding the above, Connections with certain Customer Clients will be billed at a rate of \$500 per Customer Client per region per month (the "Flat Rate") based on pre-existing contractual arrangements between that Customer Client and Eze Castle Software. For Connections added subsequent to the execution of this agreement, Eze Castle will notify Customer of the billing model that will be applied to each Connection. Connections billed at a Flat Rate may subsequently be changed to a Variable Rate by separate agreement between each Customer Client and Eze Castle Software.
2. All rates set forth above are exclusive of taxes, which will be addressed as specified in Section 4 of the Agreement. Rates set forth above are applicable only to the class of securities specifically identified.
3. All rates and minimum and maximum charges set forth above are applicable only to the class of securities specifically identified. Rates and minimum and/or maximum charges, if any for other types of securities will be mutually agreed to by the parties in the future and set forth on an amended pricing schedule.
4. As used here, "Options" will not include options on futures, currency, or fixed income. Eze Castle will not bill Broker Client for, and Broker Client will not use any Connections to facilitate transactions in such instruments.

AMENDMENT to CONNECTIVITY SERVICES AGREEMENT

This Amendment ("CSA Amendment") to the Connectivity Services Agreement (as amended and in effect, the "CSA") entered into as of **March 1, 2005** (the "CSA Effective Date") by and between **Eze Castle Transaction Services LLC** (successor to Eze Castle Transaction Services, Inc.) ("Eze Castle") and **Lehman Brothers, Inc.** ("Customer") is entered into as of **November 1, 2006** (the "CSA Amendment Effective Date"). Capitalized terms not defined in this CSA Amendment will have the meaning ascribed in the CSA.

WHEREAS, Eze Castle and Customer are party to the CSA;

WHEREAS, Eze Castle and Customer have entered into a CSA Amendment effective as of October 1, 2006, which expanded coverage of the CSA to Connections with certain Customer-Clients for the purpose of facilitating trading of options (other than options on futures, currency, and fixed income instruments);

WHEREAS, Eze Castle and Customer desire to add additional terms and conditions to the CSA to accommodate Customer's desire to establish Connections with certain Customer-Clients for the purpose of facilitating trading of options on futures and futures; and

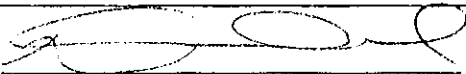
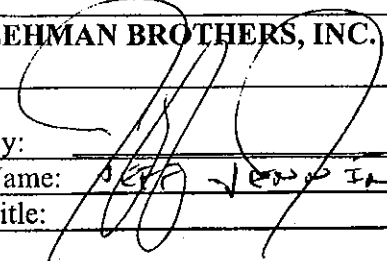
NOW, THEREFORE, for and in consideration of the mutual promises and covenants set forth herein, Eze Castle and Customer hereby agree as follows:

1. The following language is hereby added to the end of Section 3(b):

"Customer represents and covenants that Customer is and will remain during the Term for so long as Customer is using Connections to facilitate trading of options on futures and futures, duly registered and in good standing with the National Futures Association and the Commodity Futures Trading Commission as a futures commission merchant and as its business otherwise requires for the trading of options on futures and futures."

2. Prices for the Services are set forth in Schedule A-1 which hereby supersedes and replaces any previously agreed to Schedule A or A-1 to the CSA in its entirety.
3. All terms of the CSA not specifically modified by this CSA Amendment remain in full force and effect as set forth in the CSA.
4. This CSA Amendment may be executed in counterparts, each of which constitutes an original, and all of which, collectively, constitute only one agreement. The signatures of the parties need not appear on the same counterpart, and delivery of an executed signature page by facsimile is as effective as executing and delivering this CSA Amendment in the presence of other parties to this CSA Amendment. Neither party will be bound by the terms of this CSA Amendment until this CSA Amendment is executed by both parties.

IN WITNESS WHEREOF, Eze Castle and Customer have caused their duly authorized representatives to execute this CSA Amendment effective as of the CSA Amendment Effective Date written above.

EZE CASTLE TRANSACTION SERVICES LLC	LEHMAN BROTHERS, INC.
By: 	By: 
Name: <u>David Guinan</u>	Name: <u>Jeff Jacobs</u>
Title: <u>President</u>	Title: <u>VP</u>

SCHEDULE A-1

Pricing

Customer Client Billing Model ¹:	Asset Class	U.S. Markets ²	Non-U.S. Markets ²	Maximum Charges³
Variable Rate	Equities	\$0.001 / share	5% of commissions generated on executed trades	Maximum: \$2,000 per month for all Equities Connections between Customer Client and Customer
Variable Rate	Options ⁴	\$0.10 / contract execution	\$0.10 / contract execution	NONE
Variable Rate	Futures and Options on Futures only	\$0.10 / contract execution	\$0.10 / contract execution	NONE

Notes:

1. Fees only apply to trades executed by Customer or its affiliate. Notwithstanding the above, Connections with certain Customer Clients will be billed at a rate of \$500 per Customer Client per region per month (the "Flat Rate") based on pre-existing contractual arrangements between that Customer Client and Eze Castle Software. For Connections added subsequent to the execution of this agreement, Eze Castle will notify Customer of the billing model that will be applied to each Connection. Connections billed at a Flat Rate may subsequently be changed to a Variable Rate by separate agreement between each Customer Client and Eze Castle Software.
2. All rates set forth above are exclusive of taxes, which will be addressed as specified in Section 4 of the Agreement. Rates set forth above are applicable only to the class of securities specifically identified.
3. All rates and minimum and maximum charges set forth above are applicable only to the class of securities specifically identified. Rates and minimum and/or maximum charges, if any for other types of securities will be mutually agreed to by the parties in the future and set forth on an amended pricing schedule.
4. As used here, "Options" will not include options on futures, currency, or fixed income. Eze Castle will not bill Broker Client for, and Broker Client will not use any Connections to facilitate transactions in such instruments, except as specifically enumerated elsewhere in this Schedule A-1.

EZE CASTLE SOFTWARE, INC.

LEHMAN BROTHERS, INC.

CUSTOM WORK ORDER
(for parties to Connectivity Services Agreement)

MARCH 1, 2005

BROKER-CLIENT: LEHMAN BROTHERS, INC. (THE "BROKER-CLIENT")

OBJECTIVE: EZE CASTLE SOFTWARE, INC. ("ECS") WITH INPUT FROM BROKER-CLIENT TO DEVELOP AN INTERFACE BETWEEN ECS'S ORDER MANAGEMENT SYSTEM ("OMS") AND BROKER-CLIENT'S ALGORITHMIC TRADING TOOLS.

TRACKING #: LEHM-CP1-A0R0

PROPOSED SERVICES: ECS WILL DEVELOP A PLUG-IN (THE "PLUG-IN") THAT ENABLES ITS TRADERS CONSOLE OMS USERS TO SEND ORDERS ELECTRONICALLY VIA FIX TO CLIENT'S ALGORITHMIC TRADING DESTINATION(S). THE PLUG-IN WILL BE BUILT TO INCLUDE ADDITIONAL FIX TAGS IN THE OUTGOING FIX MESSAGES FROM TC ACCORDING TO THE TECHNICAL SPECIFICATIONS SET FORTH IN BROKER-CLIENT'S FIX SPECIFICATION DOCUMENT DATED DECEMBER 2004 AND ATTACHED HERETO AS ADDENDUM 1.

ANY WORK PRODUCT CREATED UNDER THIS CUSTOM WORK ORDER WILL BE CONSIDERED "SUBJECT INTELLECTUAL PROPERTY"

COST: \$0 FOR THE DEVELOPMENT OF THE PLUG-IN.

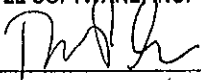
ECS RESERVES THE RIGHT TO CHARGE A SEPARATE FEE FOR ANY SUBSEQUENT MATERIAL MODIFICATIONS OR ADDITIONS (COLLECTIVELY "CHANGES") TO THE PLUG-IN; PROVIDED, THAT ANY SET OF INDIVIDUAL CHANGES OCCURRING WITHIN A NINETY (90) DAY PERIOD, EACH OF WHICH MAY NOT INDEPENDENTLY CONSTITUTE A MATERIAL CHANGE, MAY COLLECTIVELY BE CONSIDERED A MATERIAL CHANGE AND BE SUBJECT TO A SEPARATE FEE.

CONDITIONS: THIS AGREEMENT MAY ONLY BE EXECUTED IN CONJUNCTION WITH A CONNECTIVITY SERVICES AGREEMENT (THE "CSA") BETWEEN BROKER-CLIENT AND EZE CASTLE TRANSACTION SERVICES, INC.

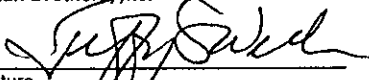
THIS AGREEMENT IS SUBJECT TO ALL TERMS SET FORTH IN THE ATTACHED "TERMS AND CONDITIONS" AND WILL BE EFFECTIVE AS OF THE DATE FIRST WRITTEN ABOVE.

Accepted:

EZE CASTLE SOFTWARE, INC.

Signature: 
Printed name: Tom Gavin
Title: COO

Lehman Brothers, Inc.

Signature: 
Printed name: Jeffrey S. Wecker
Title: Managing Director

Notice Information:
Address: 745 Seventh Avenue, 2nd Floor
New York, NY 10019
Attn: John Goeller

EZE CASTLE SOFTWARE

ADDENDUM 1

Confidential

LEHMAN BROTHERS | LMXSM

Direct to Model (DTMSM)

**Version 2.1
December 2004**

LEHMAN BROTHERS

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1. Introduction

The purpose of this document is to define the required changes necessary to provide access to Lehman's Direct to Model (DTMSM) automated trading strategy product, Lehman Model Execution (LMXSM). Both single and program orders will be accepted via the clients proprietary or vendor Order Management System for European, U.S. and Asian markets (Asia live on Q1, 2005).

Further, this document should be considered an addendum to the individual regional connectivity documents. Please note that not all message types that are supported for normal FIX will be extended to the LMX product.

1.1. Lehman Brothers LMX – Description and Framework

Orders sent to the LMX destination will be handled by a dedicated autotrading infrastructure, developed and supported within Lehman Brothers. This infrastructure contains a library of "building blocks" from which a variety of research and trading tools have been built. The LMX library employs the concept of a "strategy," which is an algorithm that works an order based on its associated instructions.

1.2. Reference Documentation

This document is an amendment to the Lehman FIX standard connectivity documents.

NOTE: There are minor functional and availability differences across regions as specified in the subsequent sections.

1.3. Product Description

Access to the Lehman-built automated strategies will be rolled out in phases. The migration plan will be agreed during implementation. Access to the strategies will be via the FIX protocol from the client order management systems. Please note not all strategies are available in every region (Europe, US, Asia) as specified within the document. The following trading strategies are available to clients:

Strategy	Description
VWAP	<p>This strategy works an order over a time interval, attempting to match or beat the Volume Weighted Average Price for that time interval.</p> <p>The benchmark is taken to include all composite trades for US OTC names, only primary exchange trades for US Listed names, and only primary orderbook trades for European stocks. Opening and closing auctions prints are included or excluded in the benchmark based on the Start Time and End Time parameters spanning the respective auction times, unless the auctions are explicitly specified to be excluded.</p> <p>A limit price prevents the strategy from sending an order above a certain level for a buy or below it for a sell. A volume limit will prevent the strategy from trading more than a certain percentage of the market traded volume (this is not a volume target; the size traded by the strategy will still depend mainly on the stocks' profile, but with the participation in the market capped by the volume limit). An aggressive option forces the strategy to stay closer to its volume profile and to send market orders towards the end to ensure the order is completed.</p>
With-Volume	<p>This strategy attempts to match a pre-specified fraction of the volume traded on the exchange (composite tape for US OTC names, primary exchange trades for US Listed names, and primary orderbook trades for European stocks).</p> <p>A limit price prevents the strategy from sending an order above a certain level for a buy or below it for a sell.</p>
Target Strike (U.S. only)	<p>This strategy trades with an objective to minimize implementation (or strike) shortfall, while taking a reasonable level of opportunity cost (or risk).</p> <p>At the start of the order, an optimal order horizon is determined analytically by considering liquidity and volatility conditions. The order is then executed with minimal impact over that period.</p> <p>A volume limit will prevent the strategy from trading more than a certain percentage of the market traded volume.</p> <p>The StrategyUrgency parameter determines the rate of trading.</p>
TWAP	<p>This strategy works an order over a time interval, attempting to match or beat the Time Weighted Average Price for that time interval.</p>

Strategy	Description
	The benchmark is, in essence, a flat volume profile, no matter what stock or time frame is under consideration. Opening and closing auctions are always excluded.
Wait & Pounce (Europe only)	<p>This strategy waits until the stock is quoted at or better than a specified limit price, and then it immediately attempts to fill as much as it can at that level.</p> <p>A restricted display quantity parameter of \$5000 forces the strategy to wait until a minimum size appears at, or better than, the specified limit price. Orders below this amount will be automatically rounded to \$5000. Individual stock round lot requirements are taken into consideration by the strategy.</p>
Sitter (Europe only)	<p>This strategy floats with the best bid (for a buy) or the best offer (for a sell), up to a pre-specified limit level.</p> <p>Care is taken not to chase small or transient quote moves, and also not to place orders that would out-size the orderbook.</p>
Auto Reload (Europe only)	<p>This strategy essentially simulates an iceberg order.</p> <p>The order is worked in tranches determined by the Display Quantity, with tranches successively placed at the pre-specified limit until the entire order is filled.</p> <p>A minimum display quantity of \$5000 is required unless the total quantity is below this amount. Orders entered below this amount will be automatically rounded by the strategy. Individual stock round lot requirements are taken into consideration by the strategy.</p>

1.4. FIX versions supported

FIX version 4.0 and 4.2 are supported.

Some of the fields required for strategy trading are not available in the FIX versions prior to FIX version 4.4. Since we intend to support various versions we've chosen to leverage the approach and fields defined in FIX 4.4 for strategy trading instead of creating our own user defined tags. It is generally accepted practice to use fields from later versions instead of creating your own user defined tags when they have already been defined.

1.5. Symbology

The following details the symbology options available per region.

Region	Details
All	RIC and other supported identifiers will be supported for all phases of the product.

1.6. Routing and Physical connection

Currently clients can connect from three regions (US, Europe, Asia). Each region has its own specific means of connecting and supports various order flow. This is shown in the following table:

Connection point	Order flow supported	Comments
US	US and European order flow	
Europe	European flow only	
Asia	n/a	Available early 2005

2. FIX Product Development

In order to support all clients, Lehman Brothers provide two means of connecting to LMX from the clients own order management system, Basic and Advanced. Both methods use the FIX protocol.

2.1. Standard FIX fields

In addition to the extra tags the following basic tags, LMX only supports the following specific values which may differ slightly from the basic tag values supported for non LMX flow.

Tag	Field Name	Format	Comments
18	ExecInst	MultipleValueString	1 = Not held
40	OrdType	Char	Valid values for LMX: 1 = Market 2 = Limit
54	Side	Char	1 = Buy 2 = Sell 5 = Sell Short (US only)
59	TimeInForce	Char	0 = Day

2.2. Message Types

Access to LMX requires extensions to the following FIX incoming message types for cash and programs:

New Order Single – Message Type = D

New Order List – Message Type = E (US only)

2.3. Reject Criteria

In addition to the standard order reject reasons, LMX will have a set of unique rejections. Orders will be rejected from LMX for the following reasons:

1. Start Time < Current time
2. End Time < Start Time
3. Price Limit < 0
4. Volume Proportion Limit =< 0
5. Participation Rate > 70% or =<0 (With Volume only)
6. Aggressiveness not equal to 0 or 100
7. LMX will reject on Symbol if the stock is not on our "LMXlist" (US only).
8. LMX will reject on Quantity if either the \$ size is too big or the %ADV is too big
9. Mandatory field not completed.

2.4. Basic FIX Approach

The Basic FIX approach uses an acronym in a field within the FIX message to identify a strategy with a pre-defined set of parameters and values. Default values will be applied to all other parameters for the strategy. The goal of this approach is to minimize the development time on the client system.

The following options are available to clients:

Option	Tag No.	Field Name	Type	Description / Comments
1	57	TargetSubID	Char	Use tag 57 (TargetSubID) = DTM and tag 58 (Text) to send an acronym that identifies the strategy with a pre-defined set of parameters and values. Sample values are <ul style="list-style-type: none"> ◆ VWAP indicates an aggressive VWAP strategy ◆ TS for Target Strike ◆ TWAP ◆ WVOL - With Volume – can setup separate acronyms for High, Medium or Low ◆ WAP - Wait and Pounce (Europe only) ◆ SIT – Sitter (Europe only)
	58	Text	Char	
2	57	TargetSubID	Char	Use tag 57 (TargetSubID) to send an acronym that identifies the strategy with a pre-defined set of parameters and values. Sample values as above.

For example, tag 58 (Text) = VWAP indicates an aggressive VWAP strategy with default start and end times (default start time is the time when the order is received or market start time, whichever is later; default end time is the market close time).

Other acronyms can be setup after mutual agreement between Lehman Brothers and the client.

2.5. Advanced FIX Approach

This approach relies on dedicated FIX fields used exclusively to define LMX order parameters.

Some of the fields required for strategy trading are not available in the FIX versions prior to FIX version 4.4. Since we intend to support various versions we've chosen to leverage the approach and fields defined in FIX 4.4 for strategy trading instead of creating our own user defined tags. It is generally accepted practice to use fields from later versions instead of creating your own user defined tags when they have already been defined.

Orders targeted for Lehman LMX would need to specify "DTM" in the TargetSubID in the Message Header.

The following table details fields that will need to be supplied with the Order Single (MsgType="D") or New Order List (MsgType="E" US only) messages as an extension to Lehman's current FIX interface. These dedicated fields can be associated with user-enterable parameters on order screens within client OMSs. Clients who require this functionality will use the TargetCompID field, using the acronym "LMX".

All VWAP orders will be automatically entered into the auctions unless excluded by the start or end time.

The following table details required FIX fields for access to LMX:

Tag no.	Tag Name	Type	Description
56	TargetCompID	Char	Access to LMX is via the acronym 'LMX' Valid value: LMX (only if the FIX session is dedicated for autotrading strategy)
57	TargetSubID	Char	Access to LMX is via the acronym 'DTM' Valid value = DTM
111	MaxFloor	Int	This tag is used for display quantity. For the Auto Reload strategy, this determines what is visible on the market. For the Wait and Pounce strategy, this determines the amount to be picked up on the order book.
126	ExpireTime	Time	Ending time as a UTC timestamp (default value is market close time)
168	EffectiveTime	Time	Starting time as a UTC timestamp (default value is current time or market start time, whichever is later)

Tag no.	Tag Name	Type	Description
847	TargetStrategy	Int	Used to identify target strategies Valid values: 1 = VWAP 2 = Participate / With-Volume (aim to be x% of the market volume) 3 = Target Strike (Minimize market impact) (U.S. only) 4 = TWAP 1002 = Wait and Pounce (Europe only) 1003 = Sitter (Europe only) 1004 = Auto Reload (Europe only)
848	TargetStrategyParameters	String	Currently not supported but reserved for future strategies.
849	ParticipationRate	Percentage	For a TargetStrategy= 2, specifies the target participation rate. For TargetStrategy = 1, 3 or 4, specifies the volume limit. Mandatory for TargetStrategy = 2.
11023	Aggressiveness	Int	Determines how closely the order follows its target volume profile. Applicable only for TargetStrategy = 1 and 4. Currently two values: 0 (passive) and 100 (aggressive) are supported. Default is 0.
11024	StrategyUrgency	Int	Indicates the rate of trading. Applicable only for TargetStrategy = 3. Currently, values from 1 (Lowest) to 5 (Highest) are supported. Default value is 3.

The following table details field usage and default values for each Strategy.

NOTE: Additional parameters received that are not applicable to the strategy on an order will be ignored

Strategy	TAG	Name	Required	Comment
VWAP (1)	168	Start Time	Optional	Defaults to current time or market start time if later.
	126	End Time	Optional	Defaults to market close
	44	Limit Price	Optional	
	849	Volume Limit	Optional	No default applied
	11023	Aggressiveness	Optional	Default is non-aggressive
With Volume (2)	168	Start Time	Optional	Defaults to current time or market start time if later.
	44	Limit Price	Optional	
	849	Volume Target	Mandatory	
Target Strike (3) [US Only]	168	Start Time	Optional	Defaults to current time or market start time if later.
	44	Limit Price	Optional	
	849	Volume Limit	Optional	No default applied
	11024	StrategyUrgency	Optional	Default = 3
TWAP (4)	168	Start Time	Optional	Defaults to current time or market start time if later.
	126	End Time	Optional	Defaults to market close
	44	Limit Price	Optional	
	849	Volume Limit	Optional	No default applied
	11023	Aggressiveness	Optional	Default is non-aggressive
Wait & Pounce (1002) [Europe only]	168	Start Time	Optional	Defaults to current time or market start time if later.
	126	End Time	Optional	Defaults to market close
	44	Limit Price	Mandatory	
	111	Display Quantity	Optional	Minimum order size \$5000 is required. The strategy will automatically round up to this dollar value.

Strategy	TAG	Name	Required	Comment
Sitter (1003) [Europe only]	168	Start Time	Optional	Defaults to current time or market start time if later.
	44	Limit Price	Optional	
AutoReload (1004) [Europe only]	168	Start Time	Optional	Defaults to current time or market start time if later.
	126	End Time	Optional	Defaults to market close
	44	Limit Price	Mandatory	
	849	Volume Limit	Optional	
	111	Display Quantity	Mandatory	Minimum order size \$5000 is required. The strategy will automatically round up to this dollar value.

2.6. Summary of Strategy parameters

NOTE - in cases where clients populate parameters that are not applicable to a strategy, the Lehman LMX approach will be to accept such orders and ignore any value populated in a non-applicable Tag. Lehman will NOT reject such orders.

Advanced Strategy TAG	Region	Start time	End Time	Limit Price	Volume Limit	Aggressiveness	Strategy Urgency	Volume Target	Display Quantity
VWAP	US, EU	✓	✓	✓	✓	✓	n/a	n/a	n/a
With Volume	US, EU	✓	n/a	✓	n/a	n/a	n/a	M	n/a
Target Strike	US	✓	n/a	✓	✓	n/a	✓	n/a	n/a
TWAP	US, EU	✓	✓	✓	✓	✓	n/a	n/a	n/a
Wait & Pounce	EU	✓	✓	M	n/a	n/a	n/a	n/a	✓
Sitter	EU	✓	n/a	✓	n/a	n/a	n/a	n/a	n/a
Auto Reload	EU	✓	✓	M	✓	n/a	n/a	n/a	M

✓ Optional
M Mandatory
N/A Non applicable

LEHMAN BROTHERS LEHMAN BROTHERS

3. Support

LMX will be supported under the existing Connectivity Support model which provides rotating support across geographies globally ensuring complete coverage during market hours as well as for after hours trading. The service desk provides 22 X 5 support. The service desk has a number of tools including the Connectivity Service Workstation globally, allowing the service personnel to monitor and address client issues in a timely fashion. Our Connectivity Service Desk will be the primary point of for support of LMX strategies through FIX.

Clients will be notified of any change to the Direct To Model (DTM) specification via the Lehman LMX web page.

For questions regarding the specifications, please contact

- ◆ Sanjoy R. Choudhury (schoudhu@lehman.com + 1 212 526 2713) or
- ◆ Natasha Bonner-Fomes (natasha.bonnerfomes@lehman.com +44 (0) 20 7103 6377).

You may also contact the following:

Role	Name	Contact Information	Support Time (Local time)
US Service Desk		links@lehman.com +1 212 526 0911	07:00- 18:00
European Service Desk		EurConService@lehman.com +44 (0)20 7103 1211	07:00 - 18:00
Asia Service Desk		AsiaConn@lehman.com +81 3 6440 2639	07:30 - 18:00
US DTM Product Manager	Larry Albin	laralbin@lehman.com +1 212 526 2250	
Europe DTM Product Manager	Natasha Bonner-Fomes	natasha.bonnerfomes@lehman.com +44 (0) 20 7103 6377	
Asia DTM Product Manager	Francisco Izawa	fizawa@lehman.com +81 3 6440 2631	

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4. Appendices

4.1. A - Custom Design

Custom Order Entry Screen

It is expected that users will select LMX strategies from a drop-down menu. The appropriate radio buttons or enterable fields will appear for each strategy when selected.

Order entry functionality will need to be available for both individually entered orders and programs (both for an entire program or a constituent order).

The following are mock-ups of a generic order tickets within the vendor OMS. When the user chooses Lehman as the executing broker, additional LMX functionality will appear displaying the choice of strategies in a drop-down menu. Based on the choice of strategy, the user will have to enter the appropriate required and optional order parameters. Parameters that are irrelevant for the chosen strategy will be grayed out:

Order Enricher

LEHMAN BROTHERS | LMX

Strategy Name: **VWAP**

Time Configuration

☒ Start of Day ☒ End of Day

Parameters

Limit Price:

Volume Limit (0-100%):

☒ Aggressive Completion

OK Cancel

FIX Tag: 847

FIX Tag: 126

FIX Tag: 168

FIX Tag: 849

FIX Tag: 11023

Please note that the above order entry screen matches the TWAP requirement

Order Enricher
LEHMAN BROTHERS | LMX

Strategy Name: **WithVolume**

Start Time
☐ Start of Day
☒ 3:19 PM

Parameters
Limit Price:
Volume Target (0-70%):

OK Cancel

FIX Tag: 847
FIX Tag: 168
FIX Tag: 849

Order Enricher
LEHMAN BROTHERS | LMX

Strategy Name: **TargetStrike**

Start Time
☐ Start of Day
☒ 11:32 AM

Parameters
Limit Price:
Volume Limit (0-100%):
Urgency: Neutral

OK Cancel

FIX Tag: 168
FIX Tag: 847
FIX Tag: 849
FIX Tag: 10024

Validation Logic for Custom Order Entry Screen

1. Strategy: Drop-down menu. Enterable values not allowed.
2. Start Time: Must be in h:mm or hh:mm format, using the 12-hr or 24-hr clock. For US equities, range is from 9:30am to 3:55pm EST. If blank, assumed to be current time or 9:30am if current time < 9:30am.
3. End Time: Must be in h:mm or hh:mm format, using the 12-hr or 24-hr clock. For US equities, range is from 9:35am to 4:00pm EST. Must be > Start Time. If blank, assumed to be 4:00pm.
4. Volume: Ranges from 1-100 (dependent on strategy). Enterable

4.2. B – CFD and SWAP

Lehman Brothers has extended the LMX product to include a flag for CFD and SWAP's for European only orders. Only clients approved for CFD's and SWAP's should use TAG 775 and available values will be 0, 1, 2. If a client is approved for CFD's and SWAP's and does not send tag 775, then cash settlement (value 0) is assumed. Cash only clients are not required to use this tag.

For compliance and regulation purposes the client is required to tell Lehman upfront on the order if they are trading anything other than cash so that Lehman can treat the order accordingly in line with current compliance procedures.

A basic and advanced approach for identifying CFD and SWAP flags has been developed. FIX 4.4 tags have been used so that migration to FLX 4.4 at a later date will be as seamless as possible.

Basic CFD and SWAP approach

TAG No.	Field Name	Type	Description / Comments
58	Text	Char	Client indicates the following in the text field: <ol style="list-style-type: none">1. CFD's – 'CFD'2. Swaps – 'SWP' If not specified, we will default to cash.

Defining text in TAG 58

The following order of text is required when using Tag 58 to identify the strategy and product.

Example 1 – Identifying Product and strategy using TAG 58 CFD (space) VWAP

Example 2 – Identifying VWAP strategy only VWAP

Example 3 – Identifying SWAP and strategy using Tag 58 SWP (space) VWAP

CFD and SWAP advanced approach

TAG No.	Field Name	Type	Description / Comments
775	BookingType	Int	Method for booking out this order. Used when notifying a broker that an order to be settled by that broker is to be booked out as an OTC derivative (e.g. CFD or similar). If not specified will default to cash. Valid values: 0 = Regular booking (default) 1 = CFD (Contract For Difference) 2 = Total return swap

EZE CASTLE SOFTWARE

TERMS AND CONDITIONS FOR CUSTOM WORK ORDER(S)

1. Services Provided. Eze Castle Software, Inc. ("ECS") will provide the custom programming and services (the "Services") set forth in the attached initial custom work order as well as any subsequent custom work orders executed by the parties (collectively, the "Proposal") to the Broker-Client named in the Proposal (the "Broker-Client"); any resulting software from the Services will be referred to herein as the "Software". All terms and conditions set forth herein will apply to all subsections of the Proposal. These Terms and Conditions and the Proposal will be referred to collectively as the "Agreement."
2. Term. This Agreement will be effective as of the date first specified in the attached initial custom work order and will continue until the date the Connectivity Services Agreement between Broker-Client and Eze Castle Transaction Services ("ECTS") expires or is terminated, provided, however this Agreement may be terminated earlier in accordance with Section 13.
3. Payment for Services. Broker-Client will pay for the Services as follows:
 - a. If a fixed quote is given for labor, fifty percent (50%) is due prior to release of deliverables, with the remainder and any adjustments due within fifteen (15) days of Broker-Client's receipt of invoice, subject to completion of the work set forth in the Proposal
 - b. If a project is to be done on an hourly or daily-rate basis, all payments are due within thirty days of invoice.
 - c. All payments under this Agreement will be made in U.S. dollars and without withholding or deduction of any tax, assessment or other governmental charge (collectively, "Tax") unless required by law; and if Broker-Client will be required to deduct or withhold any Tax, or if any Tax is required to be paid by ECS solely on account of the Services performed hereunder, Broker-Client will pay to ECS such additional amounts as will be required so that the net amount received by ECS from Broker-Client after such deduction, withholding or payment will equal the amounts otherwise due to ECS under this Agreement. If any goods and services tax, value added tax, consumption tax, sales tax or other similar tax is payable by ECS in respect of fees paid or payable to ECS for Services rendered in connection with this Agreement, ECS will add the tax to its invoices and Broker-Client will pay to ECS such tax as set forth in such invoices.
4. Late Payments. All payments due for over thirty (30) days will accrue interest at the rate of twelve percent (12%) per annum from the date Services are first billed. Collection action necessitated by a failure, neglect or refusal to pay ECS billings as and when due will entitle ECS to the expenses of collection including costs, disbursements, and reasonable attorneys fees.
5. Price Increases. If a fixed quote is given for Services, ECS reserves the right to increase the fees set forth in the Proposal in the event that the scope of the project changes such that significant additional labor hours are required.
6. ECS Actions Upon Early Termination of Services. In the event of the cancellation or early termination of the Services by the Broker-Client, ECS may:
 - a. Declare all amounts attributable to work performed or pro rated for expenses incurred up to the date of cancellation or termination, as set forth in the Proposal to be immediately due and payable;
 - b. Cease performance of work described in the Proposal without further obligation and/or liability to the Broker-Client.
7. Confidentiality. As used herein, the party disclosing Confidential Information is the "Disclosing Party" and the party receiving the Confidential Information is the "Recipient."
 - a. Identification of Confidential Information. Each party acknowledges that it or its employees may, in the course of performing its responsibilities under this Agreement, be exposed to or acquire information which is proprietary to or confidential to the other party, such other party's affiliates or third parties to whom such other party has a duty of confidentiality. Any and all non-public information of any form obtained by a party or its employees in the performance of this Agreement (the "Receiving Party"), including but not limited to this Agreement and the terms hereof, will be deemed to be the confidential and proprietary information of the other party (such other party the "Disclosing Party", and such information "Confidential Information"). "Confidential Information" includes, but is not limited to, information relating to the intellectual property and business practices of Disclosing Party, whether or not reduced to writing or other tangible meaning of expression, and whether or not patented, patentable, capable of trade secret protection, or protected as an unpublished or published work under the U.S. Copyright Act of 1976, as amended. Confidential Information also includes comparable information that Recipient may receive or has received from others with whom it does business. "Intellectual property" includes, but is not limited to, information relating to research and development, inventions, discoveries, software, improvements, methods and processes, know-how, compositions, works, concepts, designs, ideas, prototypes, models, samples, writings, notes, and patent applications. "Business Practices" includes, but is not limited to, information relating to intellectual property, business plans, financial information, products, services, manufacturing processes and methods, costs, sources of supply, strategic marketing plans, advertising plans, subscriber lists, sales, profits, pricing methods, personnel, and business relationships. ECS's Confidential Information will specifically include, without limitation, the Software, the instructions therefor, the documentation therefor, the "look and feel" thereof, the algorithms therein, the source code therefor, and the screen displays thereof.
 - b. Exceptions. Confidential Information will not include information which (i) is or becomes part of the public domain without breach of this Agreement by the Receiving Party, (ii) was acquired by the Receiving Party prior to receipt from Broker-Client and is not otherwise subject to an obligation of confidentiality, (iii) is subsequently obtained by the Receiving Party from a third party which does not have an obligation to maintain the confidentiality of such information, (iv) is developed independently by or on behalf of the Receiving Party, without reference to Confidential Information, or (v) is generally known by persons in the technology or securities industries as demonstrated by written records
 - c. Restrictions. All Confidential Information will be held in trust and confidence by the Receiving Party, its successors and assigns. The Receiving Party will not disclose, use, copy, or allow access to the Disclosing Party's Confidential Information Confidential Information for any purpose whatsoever other than as contemplated by this Agreement, and will use its best efforts to maintain in confidence any Confidential Information of the Disclosing Party and to prevent its disclosure to others. To these ends, the Receiving Party agrees to guard Confidential Information of the Disclosing Party as it would protect its own confidential and proprietary information, and to take all necessary steps to insure that such Confidential Information is not made available by the Receiving Party or by any of its agents,

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- contractors or employees to any entity or person(s) outside the operating confines of this Agreement. The Receiving Party further agrees to take all steps necessary to insure that all of its agents, contractors, and employees who have access to such Confidential Information will observe and perform the provisions of this Section 7. The Receiving Party agrees that any violation of any provision of this Section 7 will cause immediate and irreparable harm to the Disclosing Party and, in such event, an injunction restraining the Receiving Party from such violation may be entered against it, in addition to any other relief available to the Disclosing Party. For avoidance of doubt and notwithstanding the foregoing, the parties agree that ECS may disclose such Confidential Information to its affiliates (but not, in any event, to any affiliated broker dealer other than Eze Castle Transaction Services, Inc.) as reasonably necessary to provide the Services hereunder, and may further disclose to Customer Clients as defined in the CSA, upon their request, Confidential Information regarding such Customer Clients' Connections as defined in the CSA. Receiving Party further agrees that upon termination of the contract, all notes, letters, documents, records and any other written, printed or recorded materials, which are then in Receiving Party's possession or control and which may contain any Confidential Information, will be delivered to the Disclosing Party or destroyed and that no copies or summaries thereof will be retained or used by Receiving Party for any purpose except as required by law or regulation. In addition, Broker-Client will not directly or indirectly translate, modify, reverse engineer, decompile or disassemble all or any part of the Software.
- d. Legal Obligation to Disclose. A Receiving Party will be released from its obligations in this Section 7 with respect to any Confidential Information the Receiving Party is required to disclose pursuant to obligations imposed by law, rule or regulation of any governmental authority, securities exchange or other self-regulatory organization of which the Receiving Party is a member or by which the Receiving Party's activities are governed or regulated, or as required by discovery order or demand in a pending investigation or litigation; *provided, however*, that prior to any such required disclosure, the Receiving Party will, to the extent practicable, provide written notice to the Disclosing Party to enable it to seek a protective order.
8. Ownership. All intellectual property conceived, made, created, developed or reduced to practice by ECS in the course of ECS's performing under this Agreement will be the property of ECS unless otherwise agreed. Unless otherwise agreed, such intellectual property will be referred to as "Subject Intellectual Property" and will be considered Confidential Information.
9. Assignment. Broker-Client hereby assigns and agrees to assign to ECS, or its designees, full right, title and interest in and to all Subject Intellectual Property conceived, made, created, developed or reduced to practice by ECS. Broker-Client agrees that, during the term of this Agreement, and subsequent to completion or termination of this Agreement, it will, at ECS's request and expense, execute all applications for United States and foreign patents, trademarks, copyrights, or other rights and will otherwise provide assistance (including but not limited to the execution and delivery of instruments of further assurance or confirmation) to assign Subject Intellectual Property to ECS and to permit ECS to perfect its right in and to Subject Intellectual Property and to enforce any patents, trademarks, copyrights, or other rights in and to Subject Intellectual Property. Broker-Client agrees not to file any patent, trademark, or copyright applications relating to Subject Intellectual Property.
10. Disclaimer. By offering the Services to Broker-Client, neither ECS nor any of its affiliates is responsible for ensuring that trading orders have been received or reviewed, or for completing trading orders in any manner or form. ECS and its affiliates will have no liability or responsibility for the execution of any trading orders or instructions transmitted through Eze-Connect or for any damages caused by errors, inaccuracies, omissions or other failures in, or delays or interruptions of, Eze-Connect, the Services or the execution of any order, from whatever cause. Additionally, ECS and its affiliates will have no liability or responsibility for any regulatory or other reporting requirements arising in connection with any order transmitted through Eze-Connect. ECS's exclusive and sole responsibilities under this Agreement are to provide the Services. Broker-Client will be solely responsible for all transaction related activities, including but not limited to reviewing and completing orders and complying with all regulatory and other reporting requirements arising in connection with such orders. Broker-Client will ensure that all transmissions or receipts of trading related messages comply with all applicable laws, rules, and regulations of relevant federal, and state authorities and applicable self-regulatory organizations.
11. WARRANTIES; LIMITATION OF LIABILITY.
- a. RECIPROCAL LIMITATION. EXCEPT AS EXPRESSLY SET FORTH HEREIN, NEITHER PARTY MAKES ANY OTHER WARRANTY, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ALL SUCH WARRANTIES ARE HEREBY DISCLAIMED. EXCEPT FOR EACH PARTY'S INDEMNIFICATION OBLIGATIONS AND OBLIGATIONS OF CONFIDENTIALITY, IN NO EVENT WILL EITHER PARTY BE LIABLE TO THE OTHER PARTY OR TO ANY THIRD PARTY FOR ANY TORT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES, DAMAGES FOR LOST PROFITS OR REVENUES, TRADING LOSSES, INACCURATE DISTRIBUTIONS, LOSS OF BUSINESS OR DATA, EXEMPLARY OR PUNITIVE DAMAGES, OF ANY KIND. EXCEPT FOR EACH PARTY'S INDEMNIFICATION OBLIGATIONS AND OBLIGATION OF CONFIDENTIALITY HEREIN, EACH PARTY'S LIABILITY TO THE OTHER FOR DIRECT DAMAGES WILL NOT EXCEED THE AMOUNT PAID BY BROKER-CLIENT TO ECS UNDER THIS AGREEMENT. NEITHER PARTY WILL BE LIABLE FOR EXEMPLARY OR PUNITIVE DAMAGES.
- b. EXCLUSION OF LIMITATION. THIS LIMITATION OF LIABILITY WILL NOT APPLY WITH RESPECT TO A PARTY'S GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, OR TO ANY CLAIMS FOR PERSONAL INJURY OR PROPERTY DAMAGE.
12. Indemnification. ECS will indemnify and hold Broker-Client harmless for any and all judgments, damages or expenses (including taxes, penalties or assessments, and reasonable attorneys' fees) ("Losses") incurred on account of claims by a third party that arise out of or in connection with intellectual property infringement by the Software or ECS or ECS's breach of Section 7 of this Agreement, except to the extent that such Losses are incurred as the result of the breach by Broker-Client of any of its obligations under this Agreement or the reckless or intentional misconduct of Broker-Client. Broker-Client will indemnify and hold ECS and its affiliates, including without limitation ECS harmless for any and all Losses incurred on account of third party claims that directly arise out of or in connection with (a) trading errors and/or trading losses related to the use of the Software; and/or (b) Broker-Client breach of the terms hereof, except to the extent that such Losses are incurred as the result of the breach by ECS of any of its obligations under this Agreement or the reckless or intentional misconduct of ECS or its affiliates. A party seeking indemnification under this Agreement (the "Indemnified Party") will give the other party (the "Indemnifying Party") timely notice of any claim or action against the Indemnified Party which may give rise to indemnification under this Agreement (a "Claim"). Such notice will set forth in reasonable detail the facts and circumstances pertaining to the Claim and the basis for the Indemnified Party's right to indemnification. Delay on the part of the Indemnified Party in notifying the Indemnifying Party of any Claim will not relieve the Indemnifying Party from any liability or obligation hereunder unless (and then solely to the extent) the Indemnifying

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Party is materially prejudiced by such failure to give prompt notice. In the event that any Indemnified Party will give notice to any Indemnifying Party of a Claim, the Indemnifying Party may assume the defense thereof by giving notice to the Indemnified Party within thirty (30) days of receipt from the Indemnified Party of such Claim in which case (i) the Indemnifying Party will defend the Indemnified Party against such Claim with counsel of its choice reasonably satisfactory to the Indemnified Party; (ii) the Indemnified Party may retain separate co-counsel at its sole cost and expense to represent it in the defense of such Claim; (iii) the Indemnified Party will not consent to the entry of any judgment or enter into any settlement with respect to such Claim without the written consent of the Indemnifying Party (not to be withheld unreasonably); and (iv) the Indemnifying Party will not consent to the entry of any judgment or enter into any settlement with respect to such Claim, which does not include a provision whereby the plaintiff or claimant in such matter releases the Indemnified Party from all liability with respect thereto, without the written consent of the Indemnified Party (not to be withheld unreasonably). If the Indemnifying Party does not notify the Indemnified Party within thirty (30) days after the Indemnified Party has given notice of such Claim that such Indemnifying Party is assuming the defense thereof, then the Indemnified Party may defend against, or enter into any settlement with respect to, such matter in any manner it reasonably may deem appropriate, without prejudice to any of its rights hereunder.

13. Termination. Notwithstanding any other provisions of this Agreement, ECS will have the right to terminate this Agreement as follows immediately without further notice if a bill for services provided hereunder by ECS not subject to a bona fide, good faith dispute is not paid in full within sixty (60) days from receipt of such bill, and Broker-Client has not cured such non-payment within thirty (30) days from receipt of notice from ECS of non-payment. This Agreement shall automatically terminate upon the termination or expiration of the Connectivity Services Agreement, executed by the parties herof of even date herewith. If either party: (a) commences or becomes the subject of any case or proceeding under the bankruptcy, insolvency or equivalent laws of any country; (b) has appointed for it or for any substantial part of its property a court-appointed receiver, liquidator, assignee, trustee, custodian, sequestrator or other similar official; (c) makes an assignment for the benefit of its creditors; (d) defaults on any secured obligation; (e) fails generally to pay its debts as they become due; or (f) takes corporate action in furtherance of any of the foregoing (each of the foregoing referred to as an "Event of Insolvency"), then, in each case, the party experiencing such an Event of Insolvency will immediately give notice of such event to the other party. Whether or not such notice is given, the other party will have the right, to the fullest extent permitted under applicable law, following the occurrence of any Event of Insolvency and without prejudice to any other rights it may have, at any time thereafter to terminate this Agreement, effective immediately upon giving notice to the party experiencing such an Event of Insolvency. Either party may terminate this Agreement at any time in the event of a material breach of the terms herein by the other party, if such party fails to cure such material breach (if such breach is capable of being cured) within thirty (30) days of notice of such breach.
14. Force Majeure; Excusable Delay. ECS will be excused from delays in performing or from any failure to perform hereunder to the extent that such delay or failure results from causes such as acts of God, fire, flood, acts of Government, war or civil disturbance, stock market or stock quotation system shut-downs, telephone line failure, or computer hardware failures and any other telecommunication failures, or any other cause beyond the reasonable control of ECS, provided that, in order to be excused from delay or failure to perform, the affected party must act diligently to remedy such delay or failure.
15. Non-Solicitation. Each party agrees not to solicit or attempt to solicit any individual or entity employed or engaged by the other at any time during the performance of the Services and for one (1) year following the earlier of: (a) completion of all work set forth in the Proposal, as confirmed by receipt by ECS of all Broker-Client payments due hereunder; or (b) the termination of such individual's or entity's employment or engagement.
16. Miscellaneous.
 - (a) The laws of the State of New York without giving effect to its conflicts of laws principles) govern all matters arising out of or relating to this Agreement, including, without limitation, its interpretation, construction, performance, and enforcement. For purposes of all legal actions and proceedings arising out of or relating to this Agreement, each of the parties consent to the jurisdiction of the federal and state courts of the State of New York.
 - (b) If any dispute arises under this Agreement, the parties will make a good faith effort to resolve the dispute before taking any action. The parties will meet to discuss the dispute no later than thirty (30) days after either party gives written notice to the other party that such a dispute exists. Such meeting may be held telephonically if travel is impractical for either party. At such meeting, an officer of ECS and an officer of Broker-Client who has authority to resolve the dispute will be in attendance.
 - (c) EACH PARTY, TO THE EXTENT PERMITTED BY LAW, KNOWINGLY, VOLUNTARILY AND INTENTIONALLY WAIVES ITS RIGHT TO A JURY TRIAL IN ANY ACTION OR LEGAL PROCEEDING RELATED TO OR ARISING OUT OF THIS AGREEMENT AND THE TRANSACTIONS IT CONTEMPLATES. THE SCOPE OF THE WAIVER IS INTENDED TO BE ALL ENCOMPASSING OF ANY AND ALL DISPUTES THAT MAY BE FILED IN ANY COURT AND THAT RELATE TO THE SUBJECT MATTER HEREIN, INCLUDING WITHOUT LIMITATION, THE SCOPE OF THIS SECTION, CONTRACT CLAIMS, TORT CLAIMS, BREACH OF DUTY CLAIMS, AND ALL OTHER COMMON LAW AND STATUTORY CLAIMS. EACH PARTY WARRANTS AND REPRESENTS THAT IT HAS RECEIVED THE ADVICE OF COMPETENT LEGAL COUNSEL.
 - (d) If any legal action or other proceeding is brought for a breach of this Agreement or any of the warranties herein, the prevailing party will be entitled to recover its reasonable attorneys' fees and other costs incurred in bringing or defending such action or proceeding, in addition to any other relief to which such party may be entitled.
 - (e) The parties will be excused from delays in performing or from any failure to perform hereunder to the extent that such delay or failure results from causes such as war or natural disaster or strike which are beyond the reasonable control of the affected party, provided that, in order to be excused from delay or failure to perform, the affected party must act diligently to remedy such delay or failure. In the event such delay continues for fifteen (15) consecutive days, either party will have the right to terminate this Agreement.
 - (f) No party may assign any of its rights under this Agreement, except with the express prior written consent of the other party. Such consent may not be unreasonably withheld. All assignments of rights are prohibited under this subsection, whether they are voluntary or involuntary, by merger (of any kind), consolidation, dissolution, operation of law, or any other manner. Despite the previous sentence, each party may assign its rights under this Agreement without the prior written consent of the other in connection with a sale of its business as a whole or substantially all of the assets of its business, provided, however, neither party

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hereunder (or its permitted assigns) may assign any of its rights under this Agreement to a competitor or other (as reasonably determined by the assignee). Any purported assignment of rights in violation of this Section is void.

- (g) This Agreement will bind and benefit the parties and their respective permitted successors and assigns.
- (h) If any provision of this Agreement is determined to be invalid, illegal or unenforceable in any respect, the remainder of this Agreement will be enforced to the full extent permitted by law, if the essential terms and conditions of this Agreement for both parties remain valid, legal and enforceable. A court of competent jurisdiction is hereby empowered to modify the invalid or unenforceable provision to make it valid and enforceable.
- (i) Each party represents and warrants that entering into and performing under this Agreement does not conflict with any existing obligations to third parties.
- (j) All notices and deliveries required to be made under this Agreement will be made in writing and delivered by hand or by a reputable next day courier. Such notice or delivery, if to Eze Castle, will be sent to:

Eze Castle Software, Inc.
12 Farnsworth St., 6th Floor
Boston, MA 02210
Attn: David Quinlan with a copy to General Counsel at the same address

And, if to Broker-Client, will be sent to the contact person(s) and address(es) set forth on the face of the Proposal.

Notice will be deemed given upon receipt.

- (k) No waiver of any term, condition or provision of this Agreement will be effective or binding unless made in writing and delivered to the party hereto whose non-performance has been waived. No such written waiver will be deemed to excuse the performance of any act other than that which is specifically referred to herein. The failure of either party hereto to enforce, or the delay of either party hereto in enforcing, any of its respective rights under this Agreement will not be deemed a waiver or modification of this Agreement, and the parties hereto may at any time commence appropriate legal or equitable proceedings to enforce any or all of their respective rights hereunder. Any prior failure to enforce, or delay in the enforcement of, such rights will not constitute a defense in any such legal or equitable proceeding.
- (l) The parties are contracting with each other as independent contractors. Neither party undertakes by this Agreement, or otherwise, to perform any obligation of the other. In no way is one party to be construed as an agent, or acting as an agent of the other in any respect.
- (m) This Agreement including any exhibits or schedules or addenda attached hereto contains the entire agreement between the parties as to the subject matter hereof. This Agreement supersedes all prior oral and written agreements or understanding between the parties as to the subject matter hereof. This Agreement may not be modified or amended except: (i) by a writing signed by a duly authorized officer of ECS and a duly authorized officer of Broker-Client; or (ii) communicated and approved by an officer of ECS and an officer of Broker-Client via electronic mail or other means of conveying an electronic signature, provided such electronic communication is clearly designated as an amendment to this Agreement.
- (n) The provisions of Sections 6, 7, 8, 9, 11, 12, 15 and 16 of this Agreement will survive completion, expiration and/or termination of this Agreement.
- (o) This Agreement may be executed in counterparts, each of which constitutes an original, and all of which, collectively, constitute only one agreement. The signatures of the parties need not appear on the same counterpart, and delivery of an executed signature page by facsimile is as effective as executing and delivering this Agreement in the presence of other parties to this Agreement. Neither party will be bound by the terms of this Agreement until this Agreement is executed by both parties.
- (p) Headings of sections in this Agreement are provided for convenience only and do not affect this Agreement's construction or interpretation.
- (q) Neither party will announce or release information about this Agreement or incorporate the other party's logos, name, or trademarks into any published or displayed advertising, branding or other promotional material, without the prior written consent of the other party. Written consent from Customer must be from Customer's Corporate Communications Department.

EZE CASTLE SOFTWARE, INC.

LEHMAN BROTHERS, INC.

CUSTOM WORK ORDER
(for parties to Connectivity Services Agreement)

OCTOBER 18, 2005

BROKER-CLIENT: LEHMAN BROTHERS, INC. (THE "BROKER-CLIENT")

OBJECTIVE: EZE CASTLE SOFTWARE, INC. ("ECS") WITH INPUT FROM BROKER-CLIENT TO DEVELOP AN INTERFACE BETWEEN ECS'S ORDER MANAGEMENT SYSTEM ("OMS") AND BROKER-CLIENT'S ALGORITHMIC TRADING TOOLS.

TRACKING #: LEHM-CP2-A0R0

PROPOSED SERVICES: ECS WILL MODIFY THE EXISTING BROKER-CLIENT ALGO PLUG-IN IN ACCORDANCE WITH BROKER-CLIENT'S SPECIFICATIONS ATTACHED HERETO AS ADDENDUM 1. ECS WILL HAVE A PRODUCTION-READY VERSION TO TEST WITH BROKER-CLIENT NO LATER THAN THE COMPLETION DATE LISTED BELOW.

ANY WORK PRODUCT CREATED UNDER THIS CUSTOM WORK ORDER WILL BE CONSIDERED "SUBJECT INTELLECTUAL PROPERTY"

COST:

PROGRAMMING:	\$4,200
CONSULTING	\$2,600
TESTING:	\$2,200
DOCUMENTATION:	\$1,600

TOTAL FEES: \$10,600
Discount: (\$1,600)

Total Cost: \$9,000

ECS RESERVES THE RIGHT TO CHARGE A SEPARATE FEE FOR ANY SUBSEQUENT MATERIAL MODIFICATIONS OR ADDITIONS (COLLECTIVELY "CHANGES") TO THE PLUG-IN; PROVIDED, THAT ANY SET OF INDIVIDUAL CHANGES OCCURRING WITHIN A NINETY (90) DAY PERIOD, EACH OF WHICH MAY NOT INDEPENDENTLY CONSTITUTE A MATERIAL CHANGE, MAY COLLECTIVELY BE CONSIDERED A MATERIAL CHANGE AND BE SUBJECT TO A SEPARATE FEE.

START DATE: UPON ECS'S RECEIPT OF SIGNED CONTRACT FROM BROKER-CLIENT

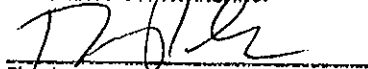
TESTING COMMENCEMENT

DATE: ECS WILL HAVE A PRODUCTION-READY VERSION TO TEST WITH BROKER-CLIENT WITHIN FOUR (4) WEEKS OF START DATE

CONDITIONS: THIS CUSTOM WORK ORDER IS DEEMED APPENDED TO AND SUBJECT TO THE TERMS AND CONDITIONS OF THE CUSTOM WORK ORDER EXECUTED BY AND BETWEEN BROKER-CLIENT AND ECS, EFFECTIVE AS OF MARCH 1, 2005.

Accepted:

EZE CASTLE SOFTWARE, INC.



Signature

Printed name: Thomas P. Gavin

Title: CEO

LEHMAN BROTHERS, INC.



Signature

Printed name:

Francis J. Trause

Title:

Notice Information:

Address: 745 Seventh Avenue, 2nd Floor
New York, NY 10019

Attn: John Goeller

EZE CASTLE SOFTWARE, INC.

LEHMAN BROTHERS, INC.

CUSTOM WORK ORDER
(for parties to Connectivity Services Agreement)

JUNE 19, 2006

BROKER-CLIENT: LEHMAN BROTHERS, INC. (THE "BROKER-CLIENT")

OBJECTIVE: EZE CASTLE SOFTWARE, INC. ("ECS") WITH INPUT FROM BROKER-CLIENT TO DEVELOP AN INTERFACE BETWEEN ECS'S ORDER MANAGEMENT SYSTEM ("OMS") AND BROKER-CLIENT'S ALGORITHMIC TRADING TOOLS.

TRACKING #: LEHM-CP3-A0R0

PROPOSED SERVICES: EZE CASTLE WILL MODIFY BROKER-CLIENT'S EXISTING ALGO PLUG-IN BY ADDING:

1. A "CUSTOM" STRATEGY, AS PER THE SPECIFICATIONS ATTACHED HERETO AS EXHIBIT A.
2. A NEW FIELD TO REGIONALIZE THE AVAILABILITY OF BROKER-CLIENT'S STRATEGIES ON OUR FRONT END
3. THE ABILITY TO CANCEL/REPLACE ALL VALUES IN VERSIONS OF TC WHERE THAT IS AVAILABLE
4. THE FOLLOWING TAG LINE TO ALL TACTICS IN THE PLUG IN "LEHMAN BROTHERS ELECTRONIC SALES AND TRADING 212-526-0199"

THE PLUG-IN WILL BE READY FOR TESTING WITHIN FOUR WEEKS FROM RECEIPT OF THIS EXECUTED CUSTOM WORK ORDER BY EZE CASTLE.

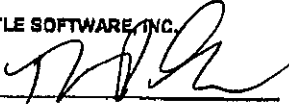
ANY WORK PRODUCT CREATED UNDER THIS CUSTOM WORK ORDER WILL BE CONSIDERED "SUBJECT INTELLECTUAL PROPERTY"

COST:	PROGRAMMING:	\$5,000
	Total Cost:	\$5,000
	Discount:	(\$5,000)
	Total Cost:	\$0

CONDITIONS: THIS CUSTOM WORK ORDER IS DEEMED APPENDED TO AND SUBJECT TO THE TERMS AND CONDITIONS OF THE CUSTOM WORK ORDER EXECUTED BY AND BETWEEN BROKER-CLIENT AND ECS, EFFECTIVE AS OF MARCH 1, 2005.

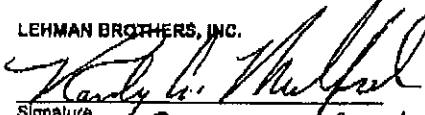
Accepted:

EZE CASTLE SOFTWARE, INC.

Signature: 
Printed name: Thomas P. Gavin

Title: CEO

LEHMAN BROTHERS, INC.

Signature: 
Printed name: **RANDY Mulford**

Title: **SVP**
Notice Information:
Address: 745 Seventh Avenue, 2nd Floor
New York, NY 10019
Attn: ~~John Crocker~~ **RANDY Mulford**

EZE CASTLE SOFTWARE LLC

LEHMAN BROTHERS, INC.

CUSTOM WORK ORDER
(for parties to Connectivity Services Agreement)

FEBRUARY 7, 2008

BROKER-CLIENT: LEHMAN BROTHERS, INC. (THE "BROKER-CLIENT")

OBJECTIVE: FOR EZE CASTLE SOFTWARE LLC ("ECS") WITH INPUT FROM BROKER-CLIENT TO DEVELOP AN INTERFACE BETWEEN ECS'S ORDER MANAGEMENT SYSTEM ("OMS") AND BROKER-CLIENT'S ALGORITHMIC TRADING TOOLS.

TRACKING #: LEHM-CP5-A0R0

PROPOSED SERVICES: ECS WILL MODIFY BROKER-CLIENT'S EXISTING PLUG-IN TO FUNCTION SUBSTANTIALLY IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS SET FORTH IN BROKER-CLIENT'S FIX SPECIFICATION DOCUMENT VERSION 5.0, DATED NOVEMBER, 2007, AND ATTACHED HERETO AS ADDENDUM 1. ECS WILL NOT SUPPORT THE PORTFOLIO PAIRS TACTIC.

THE PLUG-IN WILL BE READY FOR TESTING WITHIN EIGHT (8) WEEKS FROM RECEIPT OF THIS EXECUTED CUSTOM WORK ORDER BY ECS.

ANY WORK PRODUCT CREATED UNDER THIS CUSTOM WORK ORDER WILL BE CONSIDERED "SUBJECT INTELLECTUAL PROPERTY"

COST:

CONSULTING:	\$1,500
PROGRAMMING:	\$2,000
TESTING:	\$1,000
DOCUMENTING:	\$500

TOTAL COST: \$5,000
TOTAL DISCOUNT: (\$5,000)

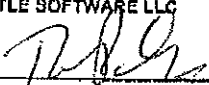
TOTAL COST: \$0

ECS RESERVES THE RIGHT TO CHARGE A SEPARATE FEE FOR ANY SUBSEQUENT MODIFICATION OR ADDITIONS TO THE PLUG-IN.


CONDITIONS: THIS CUSTOM WORK ORDER IS DEEMED APPENDED TO AND SUBJECT TO THE TERMS AND CONDITIONS OF THE CUSTOM WORK ORDER EXECUTED BY AND BETWEEN BROKER-CLIENT AND ECS, EFFECTIVE AS OF MARCH 1, 2005.

Accepted:

EZE CASTLE SOFTWARE LLC

Signature: 
Printed name: TOM GAUR
Title: CEO

LEHMAN BROTHERS, INC.

Signature: 
Printed name: Randy A. Mulford

Title: SVP
Notice Information:
Address: 745 Seventh Avenue, 2nd Floor
New York, NY 10019
Attn: LEHMAN BROTHERS

EZE CASTLE SOFTWARE

LEHMAN BROTHERS, INC.

CUSTOM WORK ORDER
(for parties to Connectivity Services Agreement)

JUNE 23, 2008

BROKER-CLIENT: LEHMAN BROTHERS, INC. (THE "BROKER-CLIENT")

OBJECTIVE: EZE CASTLE SOFTWARE LLC ("ECS"), WITH INPUT FROM BROKER-CLIENT, TO DEVELOP AN INTERFACE BETWEEN ECS'S ORDER MANAGEMENT SYSTEM ("OMS") AND BROKER-CLIENT'S FUTURES TRADING TOOLS.

TRACKING #: LEHM-CP7-A0R0

PROPOSED SERVICES: ECS WILL DEVELOP A PLUG-IN (THE "PLUG-IN") THAT ENABLES ITS TRADERS CONSOLE OMS USERS TO SEND ORDERS ELECTRONICALLY VIA FIX TO BROKER-CLIENT'S FUTURES TRADING DESTINATION(S). THE PLUG-IN WILL BE BUILT SUBSTANTIALLY IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS SET FORTH IN BROKER-CLIENT'S FIX SPECIFICATION DOCUMENT LABELED VERSION 1.2, NAMED TRADEPIPE STRATEGIES RULES OF ENGAGEMENT, DATED MARCH 5, 2007, AND ATTACHED HERETO AS ADDENDUM 1. THE FOLLOWING EXCEPTIONS APPLY:

- 1) ECS WILL NOT IMPOSE RESTRICTIONS ON START TIME AND END TIMES.
- 2) ECS WILL NOT SUPPORT SENDING ORDER TYPES OTHER THAN MARKET AND LIMIT. ECS WILL NOT SEND "STOP", "STOP-LIMIT", "MIT" OR "STOPXX".
- 3) ECS WILL NOT SUPPORT SENDING TAG 847 AS RELATED TO THE ICEBERG TACTIC.
- 4) ECS WILL MAKE COMMERCIALY REASONABLE EFFORTS TO WORK WITH BROKER-CLIENT TO FIND AND IMPLEMENT A SUITABLE WORKAROUND REGARDING HANDLING INSTRUCTIONS SENT IN TAG 21.

THE PLUG-IN WILL BE READY FOR TESTING WITHIN TWELVE (12) WEEKS FROM RECEIPT OF THIS EXECUTED CUSTOM WORK ORDER BY ECS.

ANY WORK PRODUCT CREATED UNDER THIS CUSTOM WORK ORDER WILL BE CONSIDERED "SUBJECT INTELLECTUAL PROPERTY"

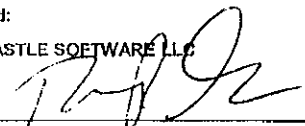
COST: **TOTAL FEE:** \$0

ECS RESERVES THE RIGHT TO CHARGE A SEPARATE FEE FOR ANY SUBSEQUENT MODIFICATION OR ADDITIONS TO THE PLUG-IN.

CONDITIONS: THIS CUSTOM WORK ORDER IS DEEMED APPENDED TO AND SUBJECT TO THE TERMS AND CONDITIONS OF THE CUSTOM WORK ORDER EXECUTED BY AND BETWEEN BROKER-CLIENT AND ECS, EFFECTIVE AS OF MARCH 1, 2005.

Accepted:

EZE CASTLE SOFTWARE LLC

Signature: 
Printed name: Thomas P. Gavin

Title: CEO

LEHMAN BROTHERS, INC.

Signature: 
Printed name: Randy Myford

Title: SVP

Notice information:
Address: 745 Seventh Avenue, 2nd Floor
New York, NY 10019
Attn: John Goeller

EZE CASTLE SOFTWARE

LEHMAN BROTHERS, INC.

ADDENDUM 1

User Guide

Version 1.2

FIX TradePipe Strategies Rules of Engagement

Project Number:	
Version Number:	1.2
Release Date:	3/5/07
Author:	Rachael DeRusha

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Business Requirement Document

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1. Introduction

The TradePipe system is designed to trade derivatives products, such as futures and options. This document outlines the required and optional fields users need for sending, modifying, and canceling orders over a FIX connection to TradePipe. These fields are valid for both FIX 4.2 and FIX 4.4. In addition to executing simple trades, such as market and limit orders, TradePipe offers a variety of trading strategies to control the timing of an order and the quantities executed. The following strategies are available to users and are described in further detail in the next section:

- OSM
- VWAP
- TWAP
- Time-Slice
- Iceberg
- Time Release
- Time Cancel
- Time Release Cancel
- Managed

2. TradePipe Strategies and Parameters

Users may call upon any of the following strategies by adding the required fields to a new order. All EffectiveTime and ExpireTime fields must be within the current trading session. If no session is available when the order is sent, the times fields may be set for the next trading session.

2.1. OSM Order (TP_OSM)

The Order Staging Model (OSM) functions exactly like TWAP except that it has the ability to fill more than its target quantity per period, if it can successfully continue to not pay the spread. In such a case it can fill up to twice its target amount in any period. This allows the user algorithm to become more aggressive if beating a benchmark or limit price is the main goal.

FIX Tag	Field Name	Required	Comments
847	TargetStrategy	Required	3000 = TP_OSM
6256	Duration	Optional*	In seconds, min=60, max=time remaining in trading session
168	EffectiveTime	Optional*	YYYYMMDD-HH:MM:SS (In GMT), Start time for strategy
126	ExpireTime	Optional*	YYYYMMDD-HH:MM:SS (In GMT), End time for strategy

* Strategy must have either Duration, Duration and EffectiveTime, or EffectiveTime and ExpireTime.

2.2. VWAP Order (TP_VWAP)

VWAP works the exact same as TWAP except that the order is not spread out linearly across 1 minute periods. Instead it is split up across periods according to typical distribution (120 day historical average) of volume across the trading session. VWAP is available for CBOT Financials, CME S&P and Nasdaq Minis, EuroStoxx 50, FTSE, DAX, EuroDollars and Gilts, Bund, Bobl and Schatz, and Euro/US, JY/US, BP/US, AD/US and CAD/US.

FIX Tag	Field Name	Required	Comments
847	TargetStrategy	Required	3001 = TP_VWAP

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Business Requirement Document

6256	Duration	Optional*	In seconds, min=60, max=time remaining in trading session
168	EffectiveTime	Optional*	YYYYMMDD-HH:MM:SS (In GMT), Start time for strategy
126	ExpireTime	Optional*	YYYYMMDD-HH:MM:SS (In GMT), End time for strategy

* Strategy must have either Duration, Duration and EffectiveTime, or EffectiveTime and ExpireTime.

2.3. TWAP Order (TP_TWAP)

TWAP (Time Weighted Average Price) is the most commonly used TradePipe execution strategy. It requires the user to enter the usual order specs plus the amount of time they would like the order worked over (HH:MM:SS). From there it splits the order into 1 minute periods, with equal quantity targets in each period. In each period, child orders are released at random sizes and prices, attempting not to pay the spread until the expiration of the period, for any balance of the target quantity which may remain unfilled. TWAP orders are popularly used for limit and market orders, but can also be entered for stop and MIT orders, where the duration (DRT) does not begin until the order is elected.

FIX Tag	Field Name	Required	Comments
847	TargetStrategy	Required	3002 = TP_TWAP
6256	Duration	Optional*	In seconds, min=60, max=time remaining in trading session
168	EffectiveTime	Optional*	YYYYMMDD-HH:MM:SS (In GMT), Start time for strategy
126	ExpireTime	Optional*	YYYYMMDD-HH:MM:SS (In GMT), End time for strategy

* Strategy must have either Duration, Duration and EffectiveTime, or EffectiveTime and ExpireTime.

2.4. Time-Slice Order (TP_POM)

This order type, formerly known as a Pyramid Order, is best defined as a linear release of orders into the market. It allows the user to specify the amount of time they would like the order to work over (in HH:MM:SS) and the number of slices they would like it split into. This effectively enables the user to determine the slice size and interval time. Time Slice Orders are most commonly used in conjunction with market orders.

FIX Tag	Field Name	Required	Comments
847	TargetStrategy	Required	3003 = TP_POM
6256	Duration	Optional*	In seconds, min=60, max=time remaining in trading session
168	EffectiveTime	Optional*	YYYYMMDD-HH:MM:SS (In GMT), Start time for strategy
126	ExpireTime	Optional*	YYYYMMDD-HH:MM:SS (In GMT), End time for strategy
6377	NumberOfOrders	Required	Number of slices an order will be divided into

* Strategy must have either Duration, Duration and EffectiveTime, or EffectiveTime and ExpireTime.

2.5. Iceberg Order (TP_IOM)

This order allows the user to specify the size of the slice ("show quantity") they would like the exchange to receive, keeping the rest of the order hidden from the marketplace. Once a slice has been filled in its entirety, the next slice is submitted. Iceberg Orders are most commonly used in conjunction with limit orders.

FIX Tag	Field Name	Required	Comments
111	MaxFloor	Required	Maximum quantity within an order to be shown on the exchange floor at any given time. Minimum show = 10, except for native CME which supports 1.

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Business Requirement Document

2.6. Time Release Order (TP_TRO)

Order will not be submitted to the exchange until the EffectiveTime has been reached.

FIX Tag	Field Name	Required	Comments
847	TargetStrategy	Required	3004 = TP_TRO
168	EffectiveTime	Required	YYYYMMDD-HH:MM:SS (In GMT), Start time for strategy

2.7. Time Cancel Order (TP_TCO)

Unfilled portion of the order will be cancelled at the ExpireTime.

FIX Tag	Field Name	Required	Comments
847	TargetStrategy	Required	3005 = TP_TCO
126	ExpireTime	Required	YYYYMMDD-HH:MM:SS (In GMT), End time for strategy

2.8. Time Release Cancel Order (TP_TRC)

Order will be submitted to the exchange at the EffectiveTime and fill until the ExpireTime has been reached. The unfilled portion will be cancel back.

FIX Tag	Field Name	Required	Comments
847	TargetStrategy	Required	3006 = TP_TRC
168	EffectiveTime	Required	YYYYMMDD-HH:MM:SS (In GMT), Start time for strategy
126	ExpireTime	Required	YYYYMMDD-HH:MM:SS (In GMT), End time for strategy

2.9. Managed Order (TP_CRO)

Managed orders are sent to the trading desk for execution. The order is acknowledged then worked by the trader. Fills are sent back to the client.

FIX Tag	Field Name	Required	Comments
21	HandInst	Required	3 = Manual order, best execution

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3. New Order Parameters

The following parameters are required to create a new order. In addition to these required and optional fields, strategy fields may be added as well. The orders can be of type market, limit, stop, stop-limit, and market-if-touched (MIT).

2.10. Header

FIX Tag	Field Name	Required	Comments
35	MsgType	Required	D = Create new order
56	TargetCompID	Required	LEHMAN
57	TargetSubID	Required	TP
49	SenderCompID	Required	Assigned value used to identify the firm sending the message.
50	SenderSubID	Optional	Assigned value used to identify the specific message originator.

2.11. Required Fields

FIX Tag	Field Name	Comments
167	SecurityType*	Required for FIX 4.2, e.g. FUT
461	CFIcode*	Required for FIX 4.4, e.g. FXXS
109	ClientID	Username for TradePipe
100	ExDest*	Either SecurityExchange or ExDestination must be provided.
207	SecurityExchange*	Either SecurityExchange or ExDestination must be provided.
21	HandlInst	1 = Automated execution order, private, no Broker intervention 3 = Manual order, best execution (for staged orders only)
200	MaturityMonthYear	YYYYMM
38	OrderQty	Strategies have a limit of 10,000.
54	Side	1 = BUY 2 = SELL
55	Symbol	Product symbol configured per client
11	ClOrdID	Unique Identifier assigned by the buy-side
40	OrdType	1 = Market 2 = Limit 3 = Stop 4 = Stop Limit J = Market If Touched (MIT) (required)
60	TransactTime***	YYYYMMDD-HH:MM:SS (in GMT)
52	SendingTime***	YYYYMMDD-HH:MM:SS (in GMT)
59	TimeInForce	0 = DAY

* Either SecurityType or CFIcode are required, depending on the FIX version.

** Either ExDestination or SecurityExchange are required. ExDest is preferred.

*** Either TransactTime or SendingTime is required.

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Business Requirement Document

2.12. Optional Fields

Field No.	Field Name	Comments
1	Account	Valid Lehman account or account that can be mapped to a valid Lehman account
44	Price	Required for limit orders, decimal format, max of 8 digits
48	SecurityID	Base RIC or Exchange traded symbol (as indicated by SecurityIDSource)
22	SecurityIDSource	5 = Base RIC 8 = Exchange Traded Symbol
99	StopPx	Required for stop and stop limit orders, decimal format, max of 8 digits

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Business Requirement Document

3. Order Cancel Request Parameters

A cancel request can be sent any time after the order has been acknowledged by TradePipe. An order may not be canceled once it has started working.

3.1. Header

FIX Tag	Field Name	Required	Comments
35	MsgType	Required	F = Order Cancel Request
56	TargetCompID	Required	LEHMAN
57	TargetSubID	Required	TP
49	SenderCompID	Required	Assigned value used to identify the firm sending the message.
50	SenderSubID	Optional	Assigned value used to identify the specific message originator.

3.2. Required Fields

FIX Tag	Field Name	Comments
167	SecurityType*	Required for FIX 4.2, e.g. FUT
461	CFIcode*	Required for FIX 4.4, e.g. FXXXS
109	ClientID	Username for TradePipe
41	OrigClOrdID	ClOrdID of the order to be canceled.
100	ExDest*	Either SecurityExchange or ExDestination must be provided.
207	SecurityExchange*	Either SecurityExchange or ExDestination must be provided.
200	MaturityMonthYear	YYYYMM
54	Side	1 = BUY 2 = SELL
55	Symbol	Product symbol configured per client
11	ClOrdID	Unique identifier assigned by the buy-side
40	OrdType	1 = Market 2 = Limit 3 = Stop 4 = Stop Limit J = Market If Touched (MIT) (required)
60	TransactTime***	YYYYMMDD-HH:MM:SS (in GMT)
52	SendingTime***	YYYYMMDD-HH:MM:SS (in GMT)
59	TimeInForce	0 = DAY

* Either SecurityType or CFIcode are required, depending on the FIX version.

** Either ExDestination or SecurityExchange are required. ExDest is preferred.

*** Either TransactTime or SendingTime is required.

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3.3. Optional Fields

FIX Tag	Field Name	Comments
1	Account	Valid Lehman account or account that can be mapped to a valid Lehman account
44	Price	Required for limit orders, decimal format, max of 8 digits
99	StopPx	Required for stop and stop limit orders, decimal format, max of 8 digits
21	HandlInst	1 = Automated execution order, private, no Broker intervention 3 = Manual order, best execution (for staged orders only)
38	OrderQty	Strategies have a limit of 10,000.
48	SecurityID	Base RIC or Exchange traded symbol (as indicated by SecurityIDSource)
22	SecurityIDSource	5 = Base RIC 8 = Exchange Traded Symbol

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4. Cancel/Replace Parameters

The cancel/replace function is used to change one or more fields of an existing order. An order can only be modified after the order has been acknowledged by TradePipe but before the order has started working. The following fields can be changed:

- OrderQty(38)
- Price(44)
- StopPx(99)
- TargetStrategy(847)
- Duration(6256)
- EffectiveTime(168)
- ExpireTime(126)

The time fields may not be set for a time that has already passed.

The Iceberg strategy is the only strategy that may be changed after the order has started working. The user may make changes to:

- Price(44)
- OrderQty(38)
- MaxFloor(111)

4.1. Header

FIX Tag	Field Name	Required	Comments
35	MsgType	Required	G = Order Cancel/Replace Request
56	TargetCompID	Required	LEHMAN
57	TargetSubID	Required	TP
49	SenderCompID	Required	Assigned value used to identify the firm sending the message.
50	SenderSubID	Optional	Assigned value used to identify the specific message originator.

4.2. Required Fields

FIX Tag	Field Name	Comments
167	SecurityType*	Required for FIX 4.2, e.g. FUT
461	CFIcode*	Required for FIX 4.4, e.g. FXXXS
109	ClientID	Username for TradePipe
41	OrigClOrdID	ClOrdID of the order to be canceled.
100	ExDest*	Either SecurityExchange or ExDestination must be provided.
207	SecurityExchange*	Either SecurityExchange or ExDestination must be provided.
21	HandlInst	1 = Automated execution order, private, no Broker intervention 3 = Manual order, best execution (for staged orders only)
200	MaturityMonthYear	YYYYMM
38	OrderQty	Strategies have a limit of 10,000.
54	Side	1 = BUY 2 = SELL
55	Symbol	Base RIC
11	ClOrdID	Unique identifier assigned by the buy-side

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40	OrdType	1 = Market 2 = Limit 3 = Stop 4 = Stop Limit J = Market if Touched (MIT) (required)
60	TransactTime***	YYYYMMDD-HH:MM:SS (in GMT)
52	SendingTime***	YYYYMMDD-HH:MM:SS (in GMT)
59	TimeInForce	0 = DAY

* Either SecurityType or CFICode are required, depending on the FIX version.

** Either ExDestination or SecurityExchange are required. ExDest is preferred.

*** Either TransactTime or SendingTime is required.

4.3. Optional Fields

FIX Tag	Field Name	Comments
1	Account	Valid Lehman account or account that can be mapped to a valid Lehman account
44	Price	Required for limit orders, decimal format, max of 8 digits
99	StopPx	Required for stop and stop limit orders, decimal format, max of 8 digits
48	SecurityID	Base RIC or Exchange traded symbol (as indicated by SecurityIDSource)
22	SecurityIDSource	5 = Base RIC 8 = Exchange Traded Symbol

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Business Requirement Document

5. TradePipe Futures Products

Listed in the table below are all of the futures products supported by TradePipe. All of the strategies can be used with these products, except for VWAP, which can only be used with the products indicated.

Exch	Description	TP Symbol	VWAP
CBOT	MINI-DOW	YM	
CBOT	30-YR Bond	ZB	Yes
CBOT	Corn (eCBOT)	ZC	
CBOT	DOW	ZDJ	
CBOT	5 Yr T-Note (eCBOT)	ZF	
CBOT	e-Gold CBOT	ZG	
CBOT	e-Silver CBOT	ZI	
CBOT	Kansas City Wheat	ZKW	
CBOT	Soybean Oil (eCBOT)	ZL	
CBOT	Soymeal (eCBOT)	ZM	
CBOT	Minneapolis Wheat	ZMW	
CBOT	10-YR Notes	ZN	
CBOT	Oats (eCBOT)	ZO	
CBOT	30 Day Fed Funds(eCBOT)	ZQ	
CBOT	Rough Rice (eCBOT)	ZR	
CBOT	Soybeans (eCBOT)	ZS	
CBOT	2-YR Notes	ZT	
CBOT	Wheat (eCBOT)	ZW	
CBOT	Mini Gold	ZYG	
CBOT	Mini Silver	ZYI	
CME	New Zealand \$ (Electronic)	6N	
CME	Mini-Russell	AB	
CME	Aussie Dollar (Electronic)	AD	Yes
CME	E-mini MSCI EAFE	BL	
CME	British Pound (Electronic)	BP	Yes
CME	Canadian Dollar (Electronic)	CD	Yes
CME	Cocoa (NYMEX)	CJ	
CME	e-mini Brent Crude	CS	
CME	E-Mini Euro FX	E7	
CME	Euro Currency (Electronic)	EC	Yes
CME	EURODOLLAR	ED	
CME	LIBOR FUTURES	EM	
CME	Mini-S&P	ES	Yes
CME	Orange Juice (NYMEX)	FJ	
CME	Sugar 11 (NYMEX)	FS	
CME	Sugar 14 (NYMEX)	FT	
CME	EURODOLLAR (Electronic)	GED	
CME	E-Mini J-Yen	J7	
CME	Japanese Yen (Electronic)	JY	Yes
CME	Coffee (NYMEX)	KT	
CME	Mini-MIDCAP	ME	

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CME	Mexican Peso (Electronic)	MP	
CME	Mini-Nasdaq	NQ	Yes
CME	e-mini NY Natural Gas	QG	
CME	e-mini NY Heating Oil	QH	
CME	e-mini NY Crude Oil	QM	
CME	m1NY Gold	QO	
CME	e-mini NY Unleaded Gas	QU	
CME	Euro FX/SF Cross (Electronic)	RF	
CME	Euro FX/BP Cross (Electronic)	RP	
CME	Euro FX/JY Cross (Electronic)	RY	
CME	Swiss Franc (Electronic)	SF	Yes
CME	Cotton (NYMEX)	TT	
CME	Palladium	YA	
CME	RBOB Unleaded-Physical (Electronic)	YB	
CME	Crude Oil-Physical (Electronic)	YC	
CME	Gold	YG	
CME	Copper	YH	
CME	Natural Gas-Physical (Electronic)	YN	
CME	HEATING OIL-Physical (Electronic)	YO	
CME	Platinum	YP	
CME	Unleaded Gas-Physical (Electronic)	YQ	
CME	Silver	YV	
CME	Nasdaq - (Globex)	ZND	
CME	NIKKEI 225 (CME) Dollar Denominated	ZNK-CME	
CME	NIKKEI 225 (CME) Yen Denominated	ZNK-CMEY	
CME	RUSSELL - (Globex)	ZRL	
CME	S&P - (Globex)	ZSP	
COP	Copenhagen Share Index	KF	
EOE	Amsterdam Index	AMX	
EUREX	DAX	FDAX	Yes
EUREX	DJ Euro STOXX 50	FESX	Yes
EUREX	EuroBund	FGBL	Yes
EUREX	EuroBobl	FGBM	Yes
EUREX	Euro-Schatz	FGBS	
EUREX	Euro-Buxl	FGBX	Yes
EUREX	EUX 3 MO Euribor	FP	
EUREX	DJ STOXX 50	FSTX	
EUZ	Swiss Confederation Bonds	CONF	
EUZ	Swiss Market Index	FSMI	
FTX	Taiwan Elec Sector	TE	
FTX	Taiwan Financial Sector	TF	
FTX	Taiwan Weighted Stock Index	TX	
HKFE	Hang Seng Index	HSI	
IDEM	S&P MIB	MIB	
IPE	BRENT CRUDE OIL	BRCL	
IPE	Cocoa (NYBOT)	CC	
IPE	Cotton (NYBOT)	CT	
IPE	WTI Crude	EN	

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IPE	LONDON GAS OIL	GASOIL	
IPE	Coffee (NYBOT)	KC	
IPE	Orange Juice (NYBOT)	OJ	
IPE	Sugar 11 (NYBOT)	SB	
IPE	Sugar 14 (NYBOT)	SE	
LIFFE	Euribor	ER	
LIFFE	EURO SWAPNOTES 10YR	ES10YR	
LIFFE	EURO SWAPNOTES 2YR	ES2YR	
LIFFE	EURO SWAPNOTES 5YR	ES5YR	
LIFFE	EUROPEAN WHEAT LIFFE	EU	
LIFFE	FTSE EuroFirst 80	FI	
LIFFE	3 Month Euroyen	J	
LIFFE	LONDON COCOA	LCO	
LIFFE	LONDON COFFEE	LKC	
LIFFE	Short Sterling	LL	
LIFFE	LONDON SUGAR	LSB	
LIFFE	MSCI Pan Euro	PEMSCI	
LIFFE	10Y JAP GOV BOND	QJ	
LIFFE	Gilt	R	Yes
LIFFE	Euro Swiss	SW	
LIFFE	FTSE 100	Z	Yes
MEFF	IBEX-35	IBEX	
MOE	CAN. BANKERS ACCEPTANCE	BA	
MOE	Canadian Government Bonds	CGB	
MOE	S&P/TSE 60 INDEX	PT	
MONEP	CAC-40	FCE	
OBX	OBX Index	OBX	
OML	OMXS30 Future	OM	
OSE	NIKKEI 225 (OSE) Lehman	OSE-LEH	
SFE	SFE AUS.10YR BOND	AUS10YR	
SFE	SFE AUS.3YR BOND	AUS3YR	
SFE	SFE BANK BILLS	BB	
SFE	SFE SPI 200	SPI	
SGX	MINI JAPAN 10YR BOND	BJM	
SGX	Singapore MSCI	SIMSCI	
SGX	Taiwan MSCI	TIMSCI	
SGX	NIKKEI 225 (SGX)	ZNK-SGX	
TIFFE	3MO EUROYEN Lehman	EYS-LEH	
TSE	TSE JGB Lehman	JB-LEH	
TSE	TOPIX Index Future	TP-LEH	
WINN	CANOLA	RS	